

**Attitudes Toward Alcohol and Alcohol Consumption in
Rural and Urban Adolescents**

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ABSTRACT

In recent years there has been an increase in interest in adolescent alcohol consumption. Until recently there has been very little research on this issue. In the present study data from rural and urban sixteen to twenty year olds was analysed to examine differences in attitudes towards alcohol and alcohol use as a function of age, sex and domicile. In addition the attitudes of the adolescents were compared to those in a study by Elvy (1980). It was found that attitudes were variable across age, sex and domicile. Attitudes were also determined to have changed significantly over the last twenty years. The Theory of Planned Behaviour was used to predict intentions for future consumption of alcohol. It was hypothesised that attitudes and subjective norm would predict intention to behave which in turn would predict actual behaviour, as measured by a self-report alcohol diary, only when perceived control was high. The only significant predictor of intention was attitude and the low return rate of diaries precluded a measure of behaviour.

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INTRODUCTION

The rationale for the present study is provided by the knowledge that the excessive use of alcohol by adolescents and the associated consequences have become issues of growing importance in New Zealand. The major objectives of the present study are to investigate the role of age, sex and domicile (urban vs rural) on the attitudes of sixteen to twenty year olds toward alcohol. In addition, the attitudes of the adolescents toward alcohol in the present study are compared with those of twelve hundred and seventy eight adolescents surveyed in 1978-79 to identify any changes across time. Ajzen's (1985) model, The Theory of Planned Behaviour (TPB) is applied to investigate the use of attitudinal variables as predictors of adolescent drinking behaviour.

The introduction is presented in four sections. In the first section, the problem of alcohol misuse by adolescents, worldwide and in New Zealand is outlined. Information on prevalence rates of drinking for young people and changes in prevalence across time is also provided. Differences in drinking prevalence and the consequence of alcohol misuse are discussed as a function of age, sex and domicile. The second section focuses on attitudes towards alcohol and attitudes toward alcohol drinkers with sex, age, and domicile differences discussed. A review of previous research provides a background for the present study. Expected differences in attitudes in the present study are discussed. Section three outlines the Theory of Planned Behaviour (TPB) and discusses the relevance of TPB to the present study. The last section of the introduction provides an overview of the present study and specific hypotheses are presented.

1. General Background

Alcohol is probably the most widely used drug by adolescents in New Zealand. For the majority of people this poses no problem. However for a growing portion of the population, alcohol has a negative impact on their lives. Wyllie, Millard and Zhang, (1996) reported that, thirty seven percent of the population in 1995 had been seriously concerned about the drinking of friends, relatives or acquaintances. The area of increasing concern, in recent years, has been alcohol and drug related problems in adolescent populations.

This concern has been fuelled, in part, by the notable increase in the media's coverage of the negative consequences of alcohol and other drug use by young New Zealander's, particularly in schools. Suspensions of secondary aged students due to alcohol use at school totalled one thousand and sixty, for the period July 1996 to December 1997 (Personal Correspondence with the Ministry of Education, January 1998). A greater awareness of youth alcohol use and associated concerns has also been fostered by organisations such as the Alcohol Advisory Council (ALAC), and Students Against Drink Driving (SADD).

ALAC has set out guidelines for safe drinking in the adult population. For women these guidelines suggest no more than four standard drinks on any one drinking occasion, fourteen or less standard drinks per week and two or three alcohol free days per week. These limits are slightly higher for men reflecting their larger body size and greater ability to metabolise and eliminate alcohol. It is suggested that a male keep within six standard drinks on one occasion and twenty one standard drinks in any one week. Again two or three alcohol free days per week are recommended. One standard drink is equivalent to a single nip of spirits, two hundred fifty mls of beer or a small glass of wine. An adult staying within these limits, who is otherwise healthy, can be classed as a safe social drinker and should

remain free of any alcohol related concerns. Similar guidelines have not been set for adolescents, who are under the legal drinking age.

The social, economic and health consequences of alcohol misuse in society are widely recognised. With the evident decrease in the age at which young people are drinking increasing amounts of alcohol, it seems imperative to focus attention on the youth of the country. Hopefully preventative measures taken at early stages, can reduce the negative social consequences and loss of life associated with alcohol use in New Zealand. However, more has yet to be known about the factor/s which lead adolescents to drink, especially to excess, before any programs effectively changing behaviour can be developed.

Alcohol consumption is a widespread activity among the New Zealand public. Prevalence rates have been well documented by the Alcohol and Public Health Research Unit. These figures show that in 1978, eighty seven percent of female fourteen to sixty five year olds and ninety three percent of male fourteen to sixty five year olds were drinkers, having consumed alcohol during the previous twelve months. This level increased slightly for females by 1988, but had decreased to eighty four percent and ninety percent for females and males respectively by 1990-1992 (Wyllie, Zhang and Casswell, 1993). A national survey 'Drinking in New Zealand' in 1995 reported these levels as remaining relatively stable at eighty five percent for women and eighty nine percent for males (Wyllie et al, 1996). Interestingly, the fourteen to seventeen year olds accounted for a proportionally lower share of drinking than any other age group in the 1988 study, yet by 1995 in this age group, particularly the sixteen and seventeen year olds, drinking had increased to levels comparable to the adult age groups, indicating a possible general increase in adolescent drinking.

In the 1960s through to the late 1970s a number of New Zealand studies showed alcohol consumption by New Zealand teenagers was a widespread activity. Routledge's (1979) survey of three thousand school students from around New Zealand identified that ninety four percent of school students had had some

experience with alcohol, predominantly in the home environment. A number of the students (60%) were regular (weekly) drinkers at Sixth Form level (sixteen--seventeen years) and were likely to be drinking other than at home. Other New Zealand studies have confirmed that a large number of adolescents (approximately 79%) were current users of alcohol (Hancock, 1966; Casswell & Hood, 1977).

Internationally there has been increased interest in adolescent alcohol consumption. In several states of the United States of America, the drinking age has been raised to twenty one in an endeavour to curb adolescent drinking. Johnston Bachman and O'Mally (cited Gibbons, Wylie, Echterling, French, 1986) found however that teenage alcohol consumption was increasing. Over fifty percent of students were introduced to alcohol before entering high school (Keys & Block 1984).

The increase in adolescent's use of alcohol in the United States has in turn generated some health concerns for this population cohort. In 1979, alcohol related accidents were the leading cause of death among fifteen to twenty five year olds (Cited in Chassin, Tetzloff & Hershey, 1985). In addition to this there is evidence to suggest a link between alcohol use and other drug use, particularly marijuana, cocaine and hallucinogens. Alcohol is generally the first-use drug and potentially increases the risk of exposure to the wider range of illicit drugs (Johnston, O'Mally, & Bachman 1984). For this reason alcohol abuse by the youth of society has attracted much attention in the United States and certainly Australia and New Zealand. When investigating prevalence of drinking and drinking related problems it is important to consider such factors as sex age and regional differences.

Sex Differences: Prevalence and Patterns of Consumption

In generations past, it was not socially acceptable for women to drink frequently or to be seen to be inebriated. During the later half of this century there have been gradual changes in attitudes toward drinking and a general acceptance of alcohol as part of socialising. This increased acceptance of alcohol is manifest in

increased liquor sales, an upsurge of cafe'-bars in the cities and their suburbs and recent changes in liquor laws, particularly the availability of alcohol through supermarket sales. In terms of health, associated problems of alcohol misuse are increasing. It is estimated that during 1995, twenty eight percent of men and seventeen percent of women in New Zealand experienced problems directly related to their drinking (Wyllie et al, 1996).

The social norms that govern women's drinking are more liberal in modern society than in the past. Alcohol is accepted as a part of normal socialising for many women. In past generations, women were in part protected from the dangers of excessive alcohol use, by the belief that 'respectable' women should not drink other than on special occasions (Park, 1991). With the change in attitudes and the liberalisation of women's rights, alcohol and other drug use by New Zealand women has become increasingly problematic, especially in specific subgroups who consume relatively large amounts of alcohol in comparison to other female groups. One such subgroup is women between the ages of sixteen and twenty-four. (Wyllie et al, 1996).

While alcohol consumption by women has increased significantly in recent years, men remain as higher frequency, higher volume drinkers. Wyllie et al, (1996) reported that seventy three percent of the alcohol was consumed by men, who had a median annual consumption of seven point four litres of absolute alcohol (approx five hundred cans of beer per year). Women reported a median annual consumption of two point one litres of absolute alcohol (or one hundred forty glasses of beer). A number of additional statistics from Wyllie et al's, (1996) study indicated differences in patterns of consumption between males and females. The median frequency of drinking for males was once every two or three days (one hundred fifty two occasions per year) compared with females who had a median frequency of drinking once every five or six days (sixty seven occasions per year) Nineteen percent of males and ten percent of females were drinking every day.

Sex differences in prevalence of drinking and patterns of consumption in adolescents, has shown the consumption of alcohol by fourteen to nineteen year old males accounts for nine percent of the total yearly consumption in New Zealand. This figure was five percent for females in the same age group (Wyllie et al, 1996). Men in the eighteen to twenty four age category and women in the sixteen to twenty four age category were more likely than any other age cohort to drink larger quantities of alcohol (six or more standard drinks (SD) for men and four or more SD for women). A greater number of these men consumed the larger quantities of alcohol, on a weekly basis, than women (thirty-eight percent vs twenty percent).

Routledge (1979) in a survey of three thousand, twelve to seventeen year olds reported that males are more likely to be drinkers of alcohol, and drink with greater frequency than females. Elvy (1980) found that the average alcohol consumption of males was higher than that of females and males were over represented at the higher levels of consumption. Recently ALACs 'Youth and Alcohol Bench Mark Survey' (1997) found no significant differences between three drinker types for sex, (non drinkers, light drinkers and heavy drinkers) although males were again prominently represented in the heavy drinker category. In this study, light drinkers were persons who had consumed less than five standard drinks at their last drinking occasion. Heavy drinkers had consumed more than five standard drinks at their last drinking occasion. This group accounted for thirty four percent of the fourteen to eighteen year olds surveyed

Age Differences: Prevalence and Patterns of Consumption

By the age of fourteen, the majority of males (sixty-nine percent) and females (fifty-six percent) had consumed at least a glass of alcohol in the last twelve months (defined as drinkers). At sixteen years of age, eighty nine percent of males and ninety percent of females were drinkers and were drinking, on each drinking occasion, an average quantity three times higher than they had consumed at age

fourteen. Additionally, both males and female were drinking these increased quantities on a more frequent basis (Wyllie et al, 1996). Seventeen percent of fourteen and fifteen year olds reported three or more types of problems resulting from their drinking in the last twelve months. This figure jumped to just under forty percent in the sixteen and seventeen year old age groups. At eighteen and nineteen years of age, greater than fifty percent of males were reporting three or more types of problems as a result of their drinking compared to forty percent for females (Wyllie et al 1996). The "Youth and Alcohol Bench-Mark Survey (1997) showed that heavy drinkers (five plus SD on their last drinking occasion) tended to be older.

Frequency of drinking peaks for both males and females at twenty to twenty four years of age, then again for males in the fifty to sixty five age cohort. The median 'typical occasion' quantity of absolute alcohol consumed, increases steadily till peak consumption at twenty to twenty four years of age and then decreases to an equivalent level at fifty to sixty five years as recorded at fourteen and fifteen years. Across time these trends in prevalence and consumption as a function of age have remained stable, with the exception of the sixteen to twenty four year old females who are drinking greater quantities of alcohol, more frequently (Wyllie et al, 1996).

Urban-Rural Differences: Prevalence and Patterns of Consumption

In recent years, research on teenage alcohol use has focused on urban teenage culture and while there have been a few studies of national trends, little attention has been paid to rural youth and their alcohol use. Room (1990) stated that while it is generally assumed that problem drinkers and heavy drinkers are most likely found in the cities, this is not always the case. Levels of consumption have been found to be lower in Paris than some areas of rural France. Similarly rural Poland has a higher rate of heavy drinking than urban Poland (Room, 1990).

Room (1990) suggested that rates of alcohol consumption in rural and urban areas vary according to when and how a measure was taken. They are also likely to depend on how rural and urban living are defined (Room, 1990). For example, at the rural end of the spectrum there were isolated farming populations and small villages and country towns. Some country towns had high rates of certain types of alcohol problems. Similarly, suburbs of some cities were under different local government than the inner city and may have been settled by people escaping the problems of the city centre. The results of urban-rural comparison are therefore likely to be effected by the handling of these rural and urban sub-populations (Room, 1990).

New Zealand research has indicated no significant regional differences in prevalence of drinking and levels of consumption, with the exception of the northern region. The Regional Health Authority (Cited in Wyllie et al, 1996) determined that Aucklanders drank more frequently than people from other regions and that Auckland women consumed more alcohol per year than women from other areas. Auckland men however, had a similar annual consumption compared to the general population. While they drank more frequently, they drank less on a typical drinking occasion. Nationally, rural men reported on a typical drinking occasion, drinking smaller quantities than those from urban areas and felt less concern for their drinking. Rural women also reported a lower level of concern for their drinking than urban women (Wyllie et al, 1996).

In the previous sections, prevalence and patterns of alcohol consumption have been discussed, in the general population and specifically in the adolescent population. In summary, it was recognised that alcohol consumption by New Zealand teenagers is a wide-spread activity. Alcohol consumption in this population, and in particular the sixteen to seventeen year olds, increased notably from 1988. Females across all age cohorts drank greater quantities more frequently, however they still accounted for a lower proportion of the total alcohol consumed in New Zealand (Wyllie et al, 1996). Alcohol consumption has been documented to begin for most

teenagers, by thirteen or fourteen years of age, (Youth and Alcohol Bench-Mark Survey, 1997) increasing steadily in terms of quantity and frequency until the age of twenty five to thirty. Men between the ages of eighteen and twenty four and women between sixteen to twenty- four years of age were more likely than any other age cohort to drink over ALAC's guidelines for safe drinking (refer to page two). In addition, older adolescents were more likely to report three or more problems in the last twelve months as a direct result of their drinking compared to their younger peers (Wyllie et al, 1996).

It was implicated by these statistics that while most adolescents drank safely, a proportion were drinking larger quantities on a more frequent basis and experiencing problems associated with that increased consumption. In an endeavour to understand alcohol use and abuse, research has investigated the dynamics involved in initiation to alcohol, social drinking and binge or heavy drinking. Routledge (1979) reported that younger adolescents were likely to report generally positive reasons for drinking. For example, liking the taste and celebrating with alcohol. Negative reasons tended to be more prominent in the sixteen and seventeen year olds and included needing alcohol to relax, to reduce stress levels, and to help with social interactions (Routledge, 1979). There was evidence to suggest that people who drank for these reasons were at greater risk of being heavy drinkers (ie. regularly drinking six or more standard drinks per day) and developing alcohol related health concerns. Regardless of whether people drank for positive or negative reasons, drunkenness and alcohol abuse were associated with high risk activities such as drink driving, unprotected sex and ill health.

The level of visibility of alcohol consumption in society and its acceptance as a part of the social environment, along with alcohol advertising and counter campaigns to reduce its potentially negative impact, make alcohol a topic on which most people have an attitude or opinion. An Australian study investigating attitudes to the regulation of alcohol established that alcohol is viewed as a leading cause of

drug related deaths and is believed to be an extensive part of Australia's drug problem, more so than tobacco (Hall, Flaherty & Homel, 1992). It therefore seemed important to understand attitudes toward alcohol, in particular adolescent attitudes, in order to gain a better understanding of drinking behaviour in the hope of curbing excessive alcohol consumption in this age group.

2. Attitudes Toward Alcohol

Individuals attitudes toward alcohol and related issues are formed at a relatively young age. Spiegler (1983) showed that even very young children (five years old) had attitudes towards people who drink alcohol (drinkers). This study reported those attitudes as being relatively neutral, but becoming increasingly negative with age. The ten and eleven year old children were reported as having the most negative attitudes toward drinkers and alcohol. Interestingly, these children had well formed attitudes, yet they were not themselves drinkers of alcohol.

It was apparent that the generally negative attitude of young children toward people who drank, changed around the time of adolescence and experimentation with alcohol, to become an increasingly positive attitude (Webb, Baer and McKelvey, 1995). A young child with no experience of alcohol is strongly affected in their attitude formation by the influence of parents and other important role models. Parental influence is reported in Webb, Baer, Getz, and McKelvey's (1996) study. In this research, seventh grade students were administered a questionnaire that assessed alcohol use and attitudes toward alcohol use. Eighteen months earlier the same participants had completed a questionnaire that assessed future intentions to use substances. The data was analysed using path analysis.

The findings of Webb et al's (1996) study indicated a significant relationship between parental attitudes (as reported by the children) and those of the children.

The perceived attitudes of peers and the child's attitude toward alcohol use were related to intentions to consume alcohol, but not with actual future alcohol use. However, intentions to use alcohol in fifth graders predicted actual alcohol use eighteen months later in the seventh grade. In summary, it was concluded that parental and peer influences are important in attitude formation of fifth graders (twelve to fourteen years old). These attitudes affect intentions to use alcohol which in turn predicted alcohol use eighteen months later (Webb et al, 1996). In addition, it was noted that attitudes toward alcohol use appear, at this age, to be in a state of change from negative to positive (Webb et al, 1996).

Experimentation with alcohol usually begins during adolescence (Webb et al, 1996), and it is likely that influences beyond those of the adolescent's peers and parents, affect attitudes toward alcohol and drinking. In today's modern technological age, television and possibly the Internet are likely to have had a place in shaping adolescent attitudes and beliefs. Grube and Wallack (1994) report that a survey conducted by the alcohol industry found that seventy three percent of people believed that advertising was a major cause of under-age drinking. Research has determined a link between advertising, children and adolescent attitudes to alcohol. Children whose parents frequently watched sport and evening television were more likely to have viewed alcohol advertising. In addition, these same young people had more favourable beliefs about drinking and had a higher intended level of drinking as adults (Grube & Wallack, 1994).

Much of the advertising used social images that are seen as desirable to young people, for example, sporting heroes, or prominent sporting teams. The impact of this advertising in New Zealand is unclear. However, Thomson, Casswell & Stewart (1994) in their study of the opinion of communication experts on alcohol advertising, reported a concern for the macho imagery used to promote alcohol and the link between alcohol advertising and sport. In light of adolescents increased awareness of their self and social images, advertising in this manner has likely influenced the attitudes of these young people. As an adolescent's social horizons

and experience broadened and they began to discover drinking environments away from the home (Routledge, 1979) it is likely to become increasingly important to be seen to have a positive social image, or to be 'one of the gang.'

Social image, along with self image, has been found to be associated with adolescent cigarette smoking. Those adolescents that had a positive social image of smoking as attractive, cool, or grown up, were more likely to smoke to look good in their own eyes, or in the eyes of their peers, (Chassin, Presson, Sherman, Corty & Olshavsky, 1981). Biddle, Bank and Marlin (1980), suggested that fourteen and fifteen year olds were most likely to be affected by social image and peer influences, as this was the age around which adolescents become increasingly self-aware. Adolescents at this age were particularly likely to adopt behaviour because of its social image and were therefore increasingly susceptible to external attitudinal information. Peer pressure for example was considered important in attitude formation of the adolescent who looked to their friends for approval and edification.

Pope, Smith, Wayne and Kelleher, (1994) investigated the relationship of a number of factors with problem drinking. Included in these measures were age, gender, academic achievement, peer approval and parental approval. They have shown that peer approval for drinking was strongly associated with problem drinking. This was especially so for adolescent females (Pope et al, 1994). In addition ,females were more likely than males to report that their parents disapproved of adolescent drinking. This suggested that the behaviour of young females, when compared to males, was more strongly influenced by the attitudes of their peers, than those of their parents. Attitudes toward the drinker (defined by a flash card which depicted an adolescent holding a beer can) did not differ between males and females, nor did they differ across drinking and non drinking participants (Chassin et al, 1985). Both sexes viewed the drinker as having the positive image of toughness, precocity and rebellion, and negatively, as less happy and less honest in comparison to themselves. (Chassin et al, 1985).

While both sexes appear to view the drinker similarly, there are noted sex differences in attitude toward alcohol and alcohol related issues. A large national study in New Zealand in 1978-79 investigated predictors of teenage alcohol use (Elvy, 1980). In his study, data from twelve hundred and seventy eight New Zealand teenagers was analysed. It examined the relationships between alcohol consumption, attitudes toward alcohol and drinking, age, sex and sociological variables. Information obtained from the participants included items on attitudes to alcohol and drinking, reported alcohol consumption, demographic information, a medical history and personal involvement in situations involving alcohol (Elvy, 1980).

Attitudes to alcohol were assessed using twenty one items which were collapsed on the basis of a principle components analysis to seven components, although only five of these were analysed by Elvy (1980). In order to make a meaningful comparison between Elvy's study and the present study the same grouping of items were analysed in the present study (see appendix A.). The component grouping in Elvy's (1980) study are detailed below.

Component One, was comprised of five items. High scores on this component reflected a lack of concern for alcohol related problems, particularly when the problems related to families with teenage children. High scores indicated that alcohol was not seen as a disruptive element in families and it was not thought that young people drank excessively (Elvy, 1980). The second component comprised three items and was associated with concern for alcohol and alcohol related problems in general. High scores indicated a belief that there was a greater need to worry about drinking problems, in comparison to other problems facing the country (Elvy, 1980). High scores on the third component, comprising two items, indicated a belief that advertising campaigns directed at drink driving and drinking in moderation had achieved what they had set out to do, and that different laws about drinking would not reduce the problems of heavy drinkers (Elvy, 1980). Component four comprised two items and high scores represented a belief that

alcoholics should be responsible for their behaviour and that they can avoid being alcoholics (Elvy, 1980). The fifth component comprised four items and high scores indicated a non-acceptance of current trends in alcohol consumption, and that in this respect New Zealand was different from other countries (Elvy, 1980). Elvy stated that components six and seven did not discriminate between groups well, and should be treated with reserve. These two components were not discussed, but the first of these two components comprised four items, and high scores indicated agreement with the belief that it is not necessarily sensible for families to teach their children to drink in moderation from a young age, and that we would not be better off if we had prohibition fifty years ago. Component seven comprises six items and high scores indicated a belief that marriage breakdowns were a consequence of alcohol, and that alcohol related crimes would be unlikely to be affected by less unemployment (Elvy, 1980).

Elvy's (1980) findings indicated firstly that alcohol consumption can be predicted based on age of the respondent. There was a great diversity of consumption depending on age, with the older participants drinking greater quantities than the younger participants (approximately 0.6mls pure alcohol per day compared to less than 0.1 mls pure alcohol per day). A stepwise regression procedure regressed consumption on age and determined that between each age cohort (fourteen-fifteen, fifteen-sixteen, sixteen-seventeen) drinking could be predicted.

In addition, attitudes and age were also found to be related to consumption, but were generally dependant on sex of the respondent (Elvy, 1980). Attitude toward component two predicted consumption in total drinkers and both the male and female samples. This attitude-consumption relationship was the strongest, particularly in the male sample. Component three was determined to be weakly related to consumption in the total sample and the males, but not the female sample. Component four was related to consumption in the female sample only. Attitudes and age were equally good predictors of consumption for males whereas attitudes

were a better predictor of consumption than age for females. Sex differences were evident in the amounts of alcohol that teenagers' consume, with males drinking approximately one-third more than females (Elvy, 1980).

The majority of variables investigated in Elvy's study were determined to have only weak linkages with self-reported alcohol consumption. Occupational status was found to be the most powerful social predictor of alcohol consumption, with the non student population as bigger drinkers compared to students (Elvy, 1980). Sex was found to be weakly related with components two, three and five. Age was weakly related with component one for all drinkers, with component three for male drinkers and with component two for female drinkers. These relationships were not explored fully in Elvy's (1980) study, nor is the direction of any relationship discussed.

The objective of the present study was to replicate Elvy's (1980) study. The issue of adolescent drinking in New Zealand, and the need for further up-to-date research on this topic, has become of growing concern. The data for Elvy's study came from a comprehensive nation-wide survey (the largest of its type in Australasia) providing a framework from which to develop the present study. The aim of the present study in respect to the attitudes of young New Zealander's was firstly, to compare the attitudes of participants to those of Elvy, and secondly to investigate the influence of age, sex and location of residence (rural or urban) on attitudes toward alcohol.

The studies discussed previously by Spiegler (1993), Webb et al (1995), and Webb et al (1996) have shown that attitudes toward alcohol vary as a function of age and differ between males and females. The present study examined this relationship further and it is expected that age and sex will be related to attitudes. In line with the research that indicated that females have more concern towards alcohol use by 'significant others' and consume less alcohol than men (Wyllie et al, 1996) it is predicted that the adolescent females will be less accepting of trends in alcohol consumption, and will indicate greater concern for alcohol related problems than the

males. Although there is a scarcity of research investigating rural and urban differences in attitudes toward alcohol, it is predicted that rural/urban differences will exist. New Zealand statistics provide support for lower rates of alcohol consumption in rural areas (Wyllie et al, 1996). In combination with extensive campaigns to reduce drink-driving and rural road crashes, it was predicted that rural participants would have attitudes toward alcohol that were generally negative. For example, indicate concern for alcohol and alcohol related problems, and view alcohol as a disruptive element in families.

The present study has gone beyond the replication of Elvy's (1980) study and has investigated The Theory of Planned Behaviour in the prediction of drinking behaviour. The reason for this is the limited evidence to suggest that behaviour is a direct consequence of attitude (Wicker, 1969). Initially, it was believed that attitudes were the best predictor of behaviour. For example, if an individual had the attitude that donating blood is positive, beneficial or a helpful thing to do, then logically that individual should be a blood donor, however, this is often not so. Webb et al (1996) in their study of drinking behaviour have shown that attitude is a good predictor of intention to behave, but not a good predictor of actual behaviour. Drinking behaviour eighteen months later was significantly related to original intention to behave. This discrepancy between attitude and behaviour may be explained in terms of general and self-specific attitudes.

An individual's general attitude toward a behaviour may differ from their specific attitude toward that behaviour creating a discrepancy between attitude and actual behaviour. If a general attitudes has no personnel application then it is unlikely the attitude will lead to behaviour. For example in smoking behaviour, the individual must firstly realise the harm in smoking and secondly relate to the potential self harm before behaviour is likely to change.

3. The Theory of Planned Behaviour

The Theory of Reasoned Action (Ajzen & Fishbein, 1980) and later, the Theory of Planned Behaviour (Ajzen, 1985), were developed to predict occurrence of volitional social behaviours. These models have been used to predict behaviour in a number of diverse areas including weight loss, family planning, and voting behaviour (cited in Parker, Manstead and Stradling, 1995), smoking behaviour (Godin, Vaolis, Lepage and Desharnais, 1992), blood donation (Giles and Cairns, 1995) and pub attendance in Norway (Traeen and Nordlund, 1993).

The Theory of Reasoned Action postulated that the best determinant of behaviour is what the person intends to do. Behavioural intention was seen to be determined by a combination of two factors, attitude toward the behaviour, and subjective norm (Ajzen & Fishbein, 1980). Attitude toward the behaviour is taken to mean the belief of the likely consequences of the behaviour and the evaluation of each of those consequences, both positive and negative (Parker et al, 1995). The second determinate, subjective norm, is an evaluation of what 'significant others' wanted one to do in respect to the behaviour in question. The strength of the subjective norm is derived from the perceived level of support from the person's 'significant others' for carrying out the behaviour, and the motivation to comply with the wishes of those others.

The Theory of Reasoned Action has greatest predictive value when behaviour is completely controlled by the person. It is recognised that most behaviours fall somewhere on a continuum of control, with total control the result of the individual having no constraints, either perceived or real, in the adoption of behaviour. If the person does not have complete control over the behaviour, for example, lacks the necessary skills or resources, then actual behaviour is less likely to be predicted by intentions to behave (Terry and O'Leary, 1995). In an endeavour to extend this

theory to situations where the individual has less than full control over behaviour, the Theory of Planned Behaviour was developed.

The Theory of Planned Behaviour (Ajzen, 1985), essentially states that to predict behavioural intention the extent to which the behaviour is under the persons control need be assessed along with attitudes toward the behaviour and subjective norm. The measure of control takes into account real as well as perceived barriers to the behaviour.

The Theory of Planned Behaviour has been used to predict behaviour, with varying degrees of success across a wide range of situations. For example, Schifter and Ajzen (1985) studied weight loss in a sample of female college students and determined that the Theory of Planned Behaviour was successful in predicting intentions to lose weight, but less successful in predicting actual weight loss. Attitude and subjective norm predicted intention to behave, but intention only predicted actual behaviour when perceived control was high. In the context of Shifter and Ajzen's (1985) study, women who intended to lose weight and had high belief in their ability to do so were most likely to lose weight.

Similarly Giles and Cairns (1995) study investigating blood donation found strong support for the Theory of Planned Behaviour in predicting intentions to donate blood. The authors report a link between perceived behavioural control and intention, which was not mediated by attitude or subjective norms (Giles and Cairns, 1995). Simply, even if the individuals had a favourable attitude toward donating blood and were motivated to comply with others wishes they were unlikely to have a strong intention to the behaviour if they perceived not having the ability or skills to donate blood. As with the weight loss study actual behaviour was predicted only in the circumstance where the behaviour was perceived to be under the control of the individual.

4. The Present Study

The major aim of this study was to investigate attitudes toward alcohol, intentions to drink alcohol and actual drinking behaviour in rural and urban New Zealand adolescents. The growing concern for alcohol related issues in this population and the limited recent research provided the rationale for the present study. The second aim of this study was to compare attitudes toward alcohol in today's youth with those of twenty years ago. To achieve this, Elvy's (1980) study investigating 'Predictors of New Zealand Teenagers' Alcohol Use: 1978-79' was, in-part, replicated.

In the present study twenty one attitude items, comprising seven components, related to alcohol, were considered as a function of age, sex and domicile. The pattern of findings for each of the seven attitude components were compared to those reported by Elvy nearly twenty years ago. It is predicted that there will be a significant difference in attitudes between the two studies. Evidence indicates an increase in adolescent drinking in terms of both frequency and quantity over recent years (Wyllie et al, 1996). It is therefore hypothesised that the attitudes of participants in the present study will indicate less concern about alcohol problems, and increased acceptance of current trends in drinking, compared to the attitudes of Elvy's sample.

The Theory of Planned Behaviour and its application to drinking behaviour was examined in the present experiment. Shifter and Ajzen (1985) and Giles and Cairns (1995) have shown that attitude and subjective norm will predict intention to drink which, in turn will predict drinking behaviour, provided that perceived behavioural control is high. In the present study it is hypothesised that adolescents intentions to drink will be predicted from their attitudes and subjective norm, and that where these ratings are high and the rating of perceived control is high, drinking behaviour will be predicted.

In addition, participants in the present study were asked to identify safe levels of drinking (both spirits and beer), for male and female drinkers. The Alcohol Advisory Council of New Zealand, along with organisations such as Students Against Drink Driving, have widely promoted safe and responsible drinking to both the adolescent and adult populations. As a consequence of these campaigns, it was predicted that the participants would have a knowledge of safe drinking limits. A descriptive measure was also obtained to determine knowledge of treatment services or helping agencies/people in the treatment of alcohol related problems.

In summary the main hypothesis of the present experiment were;

ONE. Attitudes towards alcohol in the present study will differ significantly from attitudes to alcohol in Elvy's (1980) study. **(A)** Specifically these attitudes will indicate less concern for alcohol problems, and increased acceptance of trends in alcohol consumption in comparison to Elvy's sample.

TWO Age, sex and domicile are hypothesised to be related with attitudes. **(B)** It was hypothesised that the females would be less accepting of the trends in consumption, and would indicate greater concern for alcohol related problems and the disruptive effect alcohol has on families, than the male participants. **(C)** It was hypothesised that the rural participants would indicate more concern for drinking and alcohol related problems than the urban participants. **(D)** It was hypothesised that the older participants would have less concern for alcohol and its associated problems than the younger participants.

THREE (E) It was hypothesised that the participants would be able to report safe levels of alcohol consumption, based on ALAC's guide-lines for responsible drinking.

FOUR The Theory of Planned Behaviour was hypothesised to have value in predicting intentions to drink and predicting drinking behaviour in the present study. **(F)** It is hypothesised that attitude and subjective norm will predict

intention to drink, which in turn will predict drinking behaviour, provided that perceived behavioural control is high.

METHOD

Participants

One hundred seventy eight males and two hundred and four females volunteered to participate in this research. Sixty two percent of participants lived in rural areas and thirty eight percent were urban dwellers. Participants lived within the bounds of Masterton in the north of New Zealand and Invercargill in the south. Their ages ranged from sixteen to nineteen point nine years old, with an average age of seventeen point four years for urban participants and seventeen point three years for rural participants. The participants were either at secondary school (n=199), in full time employment (n=43), or enrolled in a job training scheme (n=168). Seventy five percent of participants identified themselves as being Pakeha or New Zealanders. Ten percent as New Zealand Maori, eight percent as 'other' and two percent as other European. The remaining five percent were either Tongan, Samoan, Chinese, Indian or stated no cultural or ethnic affiliation. The numbers of participants by locality and gender in each of the three age categories are displayed in table one below.

The present study used a two (sex; male/female) by two (area; rural/urban) by three (age category; sixteen-seventeen yrs/seventeen-eighteen yrs/eighteen-twenty yrs) between subjects.

Table 1.

Numbers of Participants as a function of, Age Category and Sex in Rural and Urban Localities.

RURAL				URBAN			
AGE	16-16.9	17-17.9	18-19.9	16-16.9	17-17.9	18-18.9	TOTALS
MALE	32	42	21	18	38	23	174
FEMALE	53	56	33	19	20	22	203
TOTAL	85	98	54	37	58	45	377

Materials

Materials consisted of one eight page questionnaire and a cover sheet . Attached to the back was a self-report alcohol diary. A cover sheet (see Appendix A) invited the reader to participate in the research project and stated the aim of the project; 'To investigate teenager's attitudes to alcohol, alcohol use and intentions to drink'. The reader was informed that approximately half an hour would be required to answer the questions and that a daily alcohol consumption diary was to be collected at the end of a four week time period. The researchers name and telephone number was provided, as was that of the Alcohol Help-line. The Alcohol Help-line was explained as a free and confidential service, that answered questions and provided information and support on alcohol related issues. The cover sheet also provided information on anonymity and confidentiality. The reader was assured that while the results of the study may be published, the identity of participants would not be made public. It was stated that they would not be required to supply a name and information would be stored on computer disc and kept locked in the Psychology Department at the University of Canterbury.

The initial part of the questionnaire contained twenty one items which assessed attitudes towards alcohol consumption (n=11), drink driving (n=2), and alcohol related problems in New Zealand society (n=8). Participants rated their level of agreement or disagreement with each of the statements on a seven point scale. (1 = "strongly agree" ; 7 = "strongly disagree"). These questions were taken from Elvy (1980) "predictors of New Zealand Teenagers' alcohol use 1978-79."

Immediately following the twenty one attitude items were two questions assessing the participant's beliefs regarding the level at which drinking becomes a problem. These questions asked for the participants beliefs regarding how much alcohol could be safely consumed on a weekly basis for an extended period of time by men and women. The first of these questions focused on aspects of beer drinking and the second on spirits. Participants were requested to answer in terms of 250ml glass/es for beer and nip/s for spirits. A third question in this section asked what the participant would do, or advice a friend to do, if they or their friends drinking was causing a problem. This question was open ended and included to determine what services adolescents were aware of, or alternatively if there was a person or persons they were likely to talk with (ie parent or church leader) about alcohol related issues.

The next two pages of the questionnaire focused on participants' intentions to drink alcohol over the next four weeks. The participants were required to answer yes or no to the question, 'During the next four weeks will you attend any event where there will be alcohol available?' If their answer was yes, they were asked to specify the occasion and then to answer the subsequent questions, in relation to the stated occasion. Eight questions in this section assessed attitude to drinking (n=1), perceived social pressure to drink (n=3), intention to drink (n=3) and perceived ease, or difficulty of maintaining a decision not to drink (n=1). These questions were adapted from Schifter and Ajzen's (1985) study which investigated the application of the Theory of Planned Behaviour to weight loss among college women.

Three scales assessed attitude to drinking. 'For me to drink alcohol at this occasion would be...,' was rated on three, seven point scales, with end points desirable-undesirable, good-bad, and acceptable-unacceptable.

Three questions were included to evaluate perceived social pressure to drink. The first two of these, 'Most people who are important to you, think that you should/should not drink alcohol at this occasion,' were rated on seven point scales with the end points should/should not. The third question asked whether these people were likely to support a decision not to drink alcohol at this occasion and was again rated on a seven point scale, with end points labelled support/oppose.

Intention to drink was measured by two questions, 'I intend to drink alcohol at the occasion' and, 'I intend to try not to drink alcohol at this occasion,' both of which were rated on seven point scales with end points unlikely/likely. The statement, 'I intend not to drink alcohol at this occasion,' required a true or false response and acted as a third measure of intention.

The eighth question in this section measured perceived control of drinking and asked, 'If you were to try not to drink at this occasion, how likely is it that you would manage not to drink alcohol'. Participants were required to indicate a rating between zero and one hundred, with a rating of zero indicating that know matter how hard they tried not to drink, it is their belief they would probably still drink alcohol. A rating of one hundred indicated that on deciding not to drink, the participants were totally certain they would not drink.

Demographic information was gathered from each participant. Information gathered included age, sex, ethnicity, frequency of alcohol consumption and last drinking occasion. In addition to this, participants were asked about their preferred alcoholic beverage, average alcohol consumption on any one drinking occasion, whether they buy their own alcohol and total alcohol consumption during the previous four weeks.

Participants were encouraged to include any comments they felt relevant to the research. This was seen as important, particularly in indicating any part of the questionnaire participant's thought was vague, confusing, or inappropriate. None of the participants recorded any comment relevant to the research questionnaire.

The self-report alcohol diary attached to the back of the questionnaire, incorporated instructions for use on one side of an A4 sheet and the daily diary on which to record alcohol consumption on the other. Participants were instructed to begin filling in the alcohol diary, 'today' and continue to do so for the next four weeks. The participants were requested to list the type and amount of any alcohol consumed, beside the day of the week on which it was consumed. Participants who had previously indicated that they would be attending an occasion where alcohol would be available, were asked to indicate the event by circling the day on which it occurred as well as indicating any alcohol consumed. The diary was accompanied by an indication that I, the researcher, would return in four to five weeks, to collect the data. This instruction was verbally changed. Participants were asked to return the diaries to me at the end of the fourth week in the stamped addressed envelope provided.

Procedure

Schools, training schemes and youth groups throughout the South Island of New Zealand were contacted and permission was requested to recruit students between the ages of sixteen and nineteen, for participation in this study. Once approval had been granted, students met with the researcher and were told of the aim and purpose of the study. A number of youth in full-time employment were also recruited. These participants were either acquaintances of the researcher, or friends or colleagues of other participants.

Participants met with the experimenter in groups ranging in size from three to seventy. As an introduction to the study, participants were told of the purpose of the research, to investigate attitudes and alcohol use in rural and urban teenagers and that the results of this survey would be compared to those of a similar study conducted twenty years ago, to identify any change across time. Participants were assured that their responses would be completely confidential and anonymous and that they could withdraw their participation at any time. Participants were encouraged to answer the questions honestly and were assured that their answers would not be used for any purpose, except research and that no participants' identity could be disclosed in any way. At this point it was explained that the first few pages of questions asked for their beliefs about some alcohol related issues and that there were no right or wrong answers. The term 'Prohibition' which was included in one item was explained as few of the participants understood its meaning or implications. The alcohol diary was explained to participants and those willing to complete the diary were asked to detach the page from the questionnaire before they handed it back to the experimenter. A stamped addressed envelope was supplied for the return of the alcohol diary in four weeks time. Participants were handed a copy of the questionnaire and asked to read and detach the cover information sheet. Contributors were then asked to read the first paragraph on the inside page before completing the questionnaire. A small number of participants who had difficulty with reading, had this information read to them and three participants received help with reading the actual contents of the questionnaire.

The questionnaire took between twenty and forty five minutes to complete, depending on the size of the group and the number of questions asked by individuals. Participants were encouraged to ask for help on any point they felt was unclear during the course of the questionnaire and time was allowed at the end of the session to answer any further queries about the research. Participants were thanked for their contribution to the research and the session finished.

RESULTS

For the purpose of the analysis participants were split into three age categories. sixteen-seventeen year olds ($n= 122$), seventeen-eighteen year olds ($n= 156$) and eighteen-twenty year olds ($n= 99$).

General Effects

Nearly all of the participants drank alcohol at least on a monthly basis (81.3%) while thirteen point three percent drank less than monthly and five percent classified themselves as non-drinkers. The most common drinking frequency was weekly or fortnightly, accounting for thirty three point seven percent and twenty two point eight percent of participants, respectively. A small but yet notable proportion of the participants were drinking on a daily basis (5.4%). Males were significantly more likely to drink on a daily or weekly basis than females, $F(1, 367)=15.28$, $p<0.0001$.

Of those having reported consuming alcohol forty percent ($n= 151$) bought their own alcohol on a regular basis. One hundred eighty one of the remaining two hundred and twenty-two percent (80%) adolescents who drank alcohol, were supplied alcohol by either their parents or a friend. The remaining drinkers were supplied alcohol by another relative or acquaintance. Beer was the most commonly consumed alcoholic drink (39%) followed by spirits (30%) and wine (10%). Liqueurs, cider and alcoholic lemonades were the other main beverages consumed by this age group.

Eighty percent of participants were drinking above the ALAC responsible drinking guidelines of six standard drinks for a male and four standard drinks (SD) for a female on any one drinking occasion (see Table 2.). Females drinking above ALAC's guidelines, were drinking on an average, 15.63 SD per drinking occasion. For males drinking above ALAC's guidelines, the average consumption per occasion was 25.2 SD .

Table 2.

Mean Scores on the Seven Attitude Components, on Control, Attitude, Subjective Norm and Intention and Numbers of Participants Drinking Within and Outside ALAC's Guidelines (safe/not) as a Function of Sex, Age and Domicile.

RURAL							URBAN						
age	Male			Female			Male			Female			mean (n)
	16- 17	17- 18	18- 20	16- 17	17- 18	18- 20	16- 17	17- 18	18- 20	16- 17	17- 18	18- 20	
com1	3.88 (31)	3.98 (42)	3.73 (20)	3.55 (52)	3.50 (56)	3.45 (31)	3.69 (17)	3.70 (37)	3.41 (21)	3.66 (18)	3.68 (18)	3.04 (22)	3.62 (365)
com2	3.61 (32)	3.25 (42)	3.60 (20)	3.77 (53)	4.35 (56)	4.25 (33)	3.25 (17)	3.77 (38)	3.89 (22)	4.07 (19)	3.98 (19)	3.88 (22)	3.84 (373)
com3	3.76 (31)	3.42 (42)	4.00 (20)	3.27 (53)	3.38 (56)	3.23 (33)	3.53 (16)	3.38 (37)	3.48 (23)	3.44 (18)	3.58 (20)	3.36 (22)	3.44 (371)
com4	5.12 (32)	4.78 (42)	4.75 (20)	4.75 (51)	4.80 (55)	4.70 (33)	4.69 (16)	4.96 (36)	4.32 (22)	4.78 (18)	4.79 (19)	4.64 (22)	4.78 (366)
com5	4.28 (30)	4.41 (42)	3.60 (18)	4.33 (52)	4.39 (53)	4.05 (33)	4.56 (16)	4.47 (37)	4.22 (22)	4.18 (18)	4.57 (17)	4.18 (21)	4.29 (359)
com6	4.80 (31)	4.63 (41)	5.03 (19)	4.69 (53)	4.50 (55)	4.33 (33)	4.55 (16)	4.41 (37)	4.42 (22)	4.85 (17)	4.78 (18)	3.95 (21)	4.57 (363)
com7	4.69 (32)	4.47 (42)	4.55 (19)	4.50 (53)	4.22 (55)	4.29 (33)	4.45 (16)	4.13 (36)	4.02 (21)	4.56 (18)	4.46 (18)	3.64 (22)	4.34 (365)
contr	0.76 (27)	0.71 (34)	0.51 (18)	0.75 (46)	0.76 (49)	0.71 (25)	0.38 (9)	0.76 (28)	0.48 (10)	0.65 (13)	0.81 (16)	0.62 (14)	0.70 (289)
attitu	5.64 (28)	5.65 (32)	6.07 (19)	5.23 (48)	5.35 (49)	5.27 (26)	5.67 (11)	5.20 (25)	5.40 (10)	5.61 (12)	5.59 (17)	5.18 (13)	5.45 (290)
sub norm	3.59 (29)	4.06 (35)	4.13 (16)	3.34 (48)	3.50 (49)	3.80 (25)	4.30 (9)	3.77 (27)	3.63 (10)	3.36 (13)	3.17 (14)	3.88 (14)	3.66 (289)
inten	5.64 (29)	5.93 (36)	6.18 (19)	5.53 (44)	5.32 (51)	5.44 (26)	6.00 (12)	5.56 (27)	4.32 (11)	6.07 (14)	5.62 (17)	5.63 (13)	5.56 (299)
safe	9	5	2	7	10	5	5	11	1	3	5	2	20%
not	20	32	19	37	37	22	9	23	17	16	13	14	80%

ATTITUDES TOWARD ALCOHOL:- Components One to Seven

Individual items were scored on a scale from one to seven. A rating of one indicated agreement to the statement and a rating of seven indicated disagreement. An attitude score for each component was derived by compiling the scores of the individual items across participants and dividing the total score by the number of participants (see Table 2.). Some items were rotated, as in Elvy's (1980) study to provide consistency of reporting within each component.

A 2 (sex: male/female) by 2 (domicile: urban/rural) by 3 (age category: 16-17/17-18/18-20) ANOVA was performed on each separate component. These analyses follow.

Analysis of Component One

Component One of Elvy's (1980) study was a grouping of items a, o, p, q and r. A high rating for this component reflected a lack of concern for alcohol-related problems, particularly when the problems related to families with teenage children. Additionally a high rating indicated that alcohol was not seen as a disruptive element in families, nor was it thought that young people drank excessively.

A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age: 16-17/17-18/18-20) ANOVA with Component One as the dependant measure was performed. There were significant main effects of age category, $F(1,353)=8.14$, $p<0.05$ and of sex, $F(2, 353)=4.78$, $p<0.01$. Post hoc tests (Scheffé, $p<0.05$) revealed that the eighteen-twenty year olds differed significantly from both the sixteen-seventeen year olds and the seventeen-eighteen year olds who did not differ significantly from each other. ($M_s=3.41$ vs 3.69 and 3.72). The mean scores for the female participants were higher than for the male participants ($M_s=3.47$ vs 3.73).

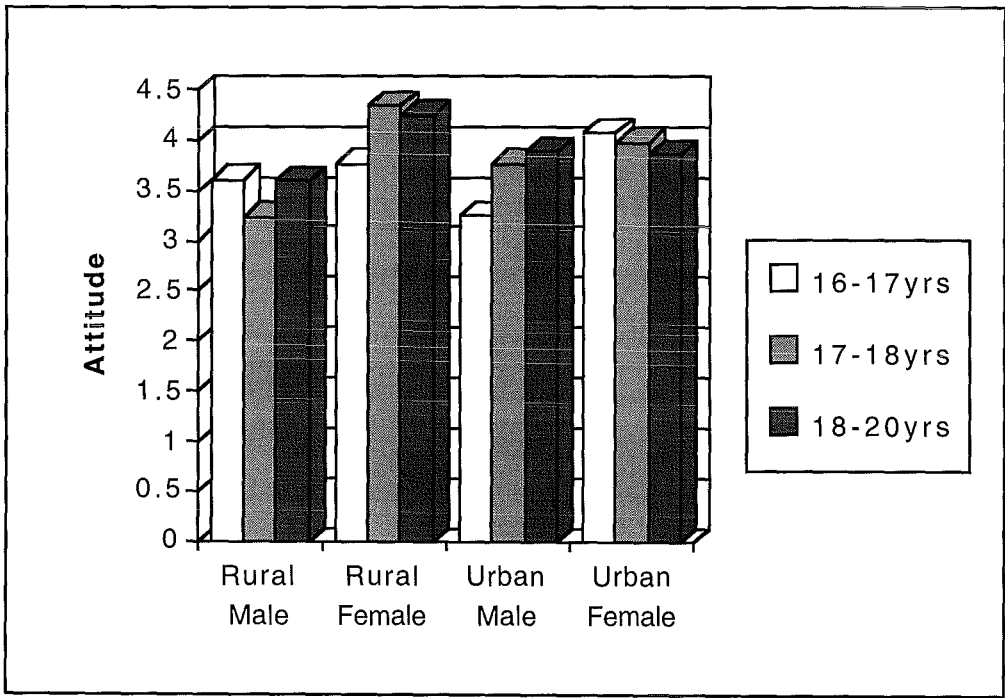
Analysis of Component Two

Component Two of Elvy's (1980) study consisted of the grouping of items n, t and u. A high rating was associated with a concern for alcohol and alcohol-related problems in general. It suggested that we should worry more about drinking problems and concentrate less on other issues facing the country.

A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age: 16-17/17-18/18-20) ANOVA with Component Two as the dependant measure was performed. There was a significant main effect of sex, $F(1, 361)=15.47$, $p<0.001$ with the males having a lower attitude score than the females ($M_s=3.56$ vs 4.05). There was also a significant interaction effect between age category, sex and area, $F(2, 361)=3.81$, $p<0.05$ (see Figure 1.). Post hoc tests (Scheffé, $p<0.05$) revealed that in the rural seventeen-eighteen year old category there was a significant difference between males and females and no significant differences between other groups ($M_s=3.24$ vs 4.35)

Figure 1.

Mean Rating for Component Two as a Function of Age, Sex and Area



Analysis of Component Three

A high rating for Component Three (items f and l) indicated a positive lack of interest in advertising campaigns directed at drinking and driving and drinking in moderation. It also suggested that more sensible laws about drinking would not reduce the problem of heavy drinkers.

A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age: 16-17/17-18/18-20) ANOVA with component three as the dependant measure, was performed. There were no significant main effects or interactions for this analysis.

"

Analysis of Component Four

Component Four contains items d and j. A high rating acknowledged that alcoholics can avoid being alcoholics, and that they should be responsible for their behaviour. It also indicated the belief that liquor is not cheap in New Zealand..

A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age: 16-17/17-18/18-20) ANOVA with Component Four as the dependant measure was performed. There were no significant main effects or interactions for this analysis.

Analysis of Component Five

Component Five contained items a, b, m and q. A high rating on this component reflected the non-acceptance of current trends in alcohol consumption and the view that in this respect, New Zealand was different from other countries..

A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age: 16-17/17-18/18-20) ANOVA with Component Five as the dependant measure was performed. There were significant main effects for area, $F(1, 341)=5.19$, $p<0.05$, and for age

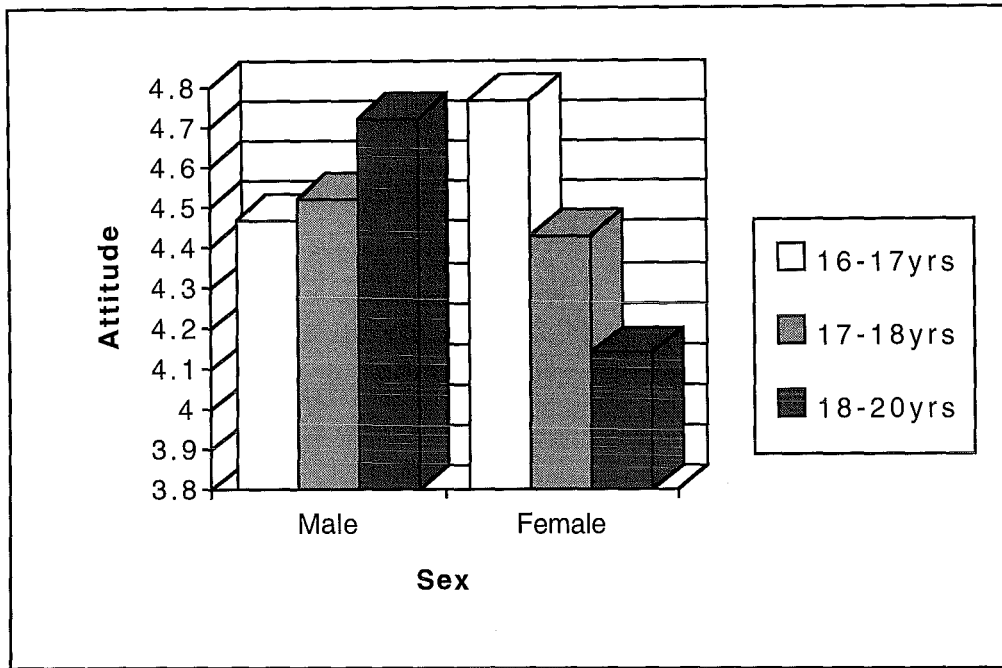
category, $F(2, 347)=10.45$, $p<0.0001$. The urban participants were less accepting of current trends in alcohol consumption compared to the rural participants ($M_s=4.36$ vs 4.17). Post hoc tests (Scheffé, $p<0.05$) revealed that participants in the eighteen-twenty year old age category were significantly different from the sixteen-seventeen year olds and the seventeen-eighteen year olds, who did not differ significantly from each other ($M_s=4.01$ vs 4.33 and 4.46).

Analysis of Component Six

A high score for Component Six (items c, g, l and s) reflected the belief, that sensible families do not necessarily try to teach their children to drink in moderation from an early age and that prohibition fifty years ago would probably not have resulted in us being better off today.

A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age: 16-17/17-18/18-20) ANOVA with Component Six as the dependant measure was performed. This revealed a significant interaction effect between age category and sex, $F(2, 352)=4.58$, $p<0.01$ (see Figure 2.). Post hoc tests (Scheffé, $p<0.05$) indicated that the sixteen-seventeen year old females differed significantly from the eighteen-twenty year old females. The seventeen-eighteen year old females were not significantly different from either of these groups ($M_s=4.77$ vs 4.14 and 4.63). The sixteen to seventeen year old males did not differ significantly from the seventeen to eighteen year old males, or the eighteen to twenty year old males who did not differ significantly from one another ($M_s=4.67$ and 4.52 and 4.72). The males and females in the sixteen-seventeen age group did not differ significantly from one another and they did not differ from the seventeen-eighteen age groupings ($M_s=4.52$ and 4.63) and both these groups showed no significant difference to the eighteen-twenty age category ($M_s=4.72$ and 4.14).

Figure 2. Mean Ratings For Component Six as a Function of Age and Sex.



Analysis of Component Seven

A high rating for Component Seven (items, e, h, i, k, r and s) indicated that alcohol was believed to be a cause of marriage breakdown and that alcohol related crimes would be unlikely to decrease with lower rates of unemployment. In addition a high rating indicated the belief that New Zealanders do not drink because they have nothing better to do with their time and sportsmen in particular do not set a bad example.

A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age: 16-17/17-18/18-20) ANOVA with component seven as the dependant measure, was performed. There was a significant main effect of sex, $F(1, 353)=8.14$, $p<0.005$. The female participants had a lower score than the male participants ($Ms=3.47$ vs 3.73). In addition there was a significant main effect of age category, $F(2, 353)=5.69$, $p<0.005$. Post hoc tests (Scheffé, $p<0.05$) indicated that the attitude of the eighteen-twenty year olds differed significantly from the attitudes of the sixteen-seventeen year olds. The seventeen-eighteen year olds did not differ significantly from either of the other age categories ($Ms=4.12$ vs 4.55 and 4.32).

Component Reliability

Reliability of each component was tested using Cronbach's alpha. The alpha's are shown below in Table 3. The reliability for all components was low, hence caution needs to be taken in drawing conclusions from the analysis of the attitude components.

Table 3.
Cronbach's Alpha for Attitude Components, One Through Seven.

	ATTITUDE COMPONENT						
	1	2	3	4	5	6	7
ALPHA	0.409	0.463	0.069	0.060	0.102	0.274	0.487

In light of the low reliability of the component groupings, the individual items were analysed separately. A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age: 16-17/17-18/18-20) ANOVA for each of the twenty one attitude items was performed. This produced the following effects.

ITEM A. - "*People in New Zealand consume more alcohol nowadays than they used to*" (Elvy, 1980). The ANOVA revealed a significant main effect of area, $F(1, 361)=4.85, p<0.05$. The urban participants indicated stronger agreement with this statement than the rural participants ($Ms=3.07$ vs 3.37).

ITEM B. - "*If people drink more in New Zealand, then it is just part of the change that is going on in many other countries*" (Elvy, 1980). For this item there was a significant main effect of sex, $F(1, 360)=4.50, p<0.05$ and of age category, $F(2, 360)=5.30, p<0.01$. Males were more in agreement with this item than females ($Ms=3.86$ vs 4.16). Post hoc tests (Scheffé, $p<0.05$) revealed that the eighteen-twenty year olds differed significantly from the seventeen-eighteen year

olds, but neither of these age categories differed significantly from the sixteen-seventeen year olds ($M_s=4.30$ vs 3.76 and 3.97).

ITEM C. - *"We would have been better off if we had prohibition fifty years ago"* (Elvy, 1980). There was a significant main effect of sex, $F(1, 360)=5.76$, $p<0.01$, with the male participants having a higher rating than the females ($M_s=5.40$ vs 4.97). In addition there was a main effect of age category, $F(2, 358)=3.10$, $p<0.05$. Post hoc tests (Scheffé, $p<0.05$), revealed no significant differences between groups ($M_s=5.51$ and 5.03 and 5.02).

ITEM D. - *"Nowadays liquor is quite cheap in New Zealand"* (Elvy, 1980). The ANOVA revealed a main effect of sex, $F(1, 360)=6.02$, $p<0.01$. The male participants had a higher rating than the female participants ($M_s=4.47$ vs 4.05).

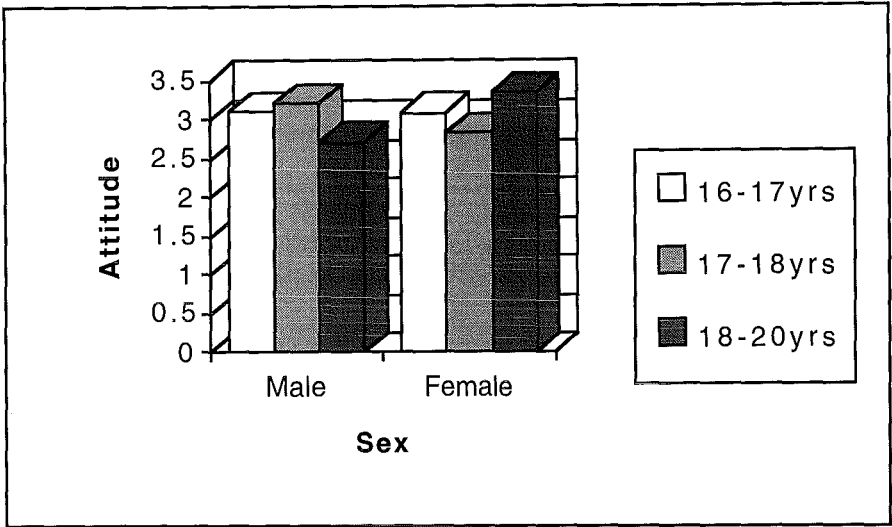
ITEM E. - *"The increasing violent crime rate in NEW ZEALAND. is due to liquor being so easy to get"* (Elvy, 1980). There was a main effect of sex for this item, $F(1, 361)=12.25$, $p<0.0001$ with the females indicating stronger agreement than the males ($M_s=3.80$ vs 4.45).

ITEM F. - *"Advertising campaigns have helped reduce the amount of drinking and driving on our roads"* (Elvy, 1980). There was a main effect of age category on this item, $F(2, 361)=3.16$, $p<0.05$. Post hoc tests (Scheffé, $p<0.05$), revealed no significant differences between individual groups ($M_s=2.62$ and 2.60 and 3.06).

ITEM G. - *"Sensible families teach their children to try drinking in moderation from an age earlier than eighteen"* (Elvy, 1980). An ANOVA on this item revealed a significant interaction effect between age category and sex (see Figure 3.). Post hoc tests (Scheffé, $p<0.05$) revealed that for the males there were no significant differences between the three age categories ($M_s=3.12$ and 3.21 and 2.71). In addition there were also no significant difference between the three age categories in the female sample ($M_s=3.09$ and 2.83 and 3.36).

Figure 3.

Mean Ratings on Item G as a Function of Age and Sex



ITEM H. - *"People drink in NEW ZEALAND. because there is nothing better to do with their time"* (Elvy, 1980). There were no significant main effects or interaction effects for this item.

ITEM I. - *"There would be fewer crimes involving alcohol if unemployment went down"* (Elvy, 1980). There were no significant main effects or interaction effects for this item.

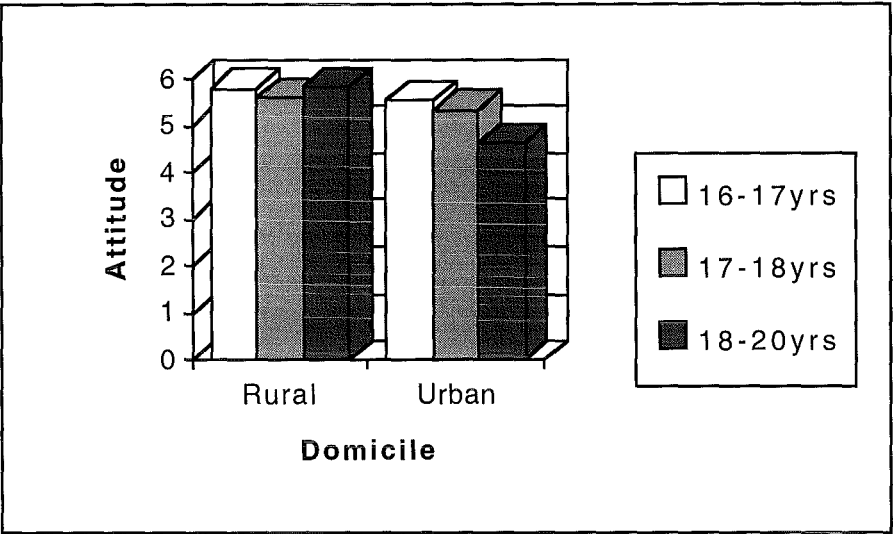
ITEM J. - *"Alcoholics cannot help being alcoholics. It's not their fault"* (Elvy, 1980). There was a significant main effect of age category on this item, $F(2, 356)=4.22$, $p<0.01$. Post hoc tests (Scheffé $p<0.05$) revealed that the eighteen-twenty year old category were significantly different from the seventeen-eighteen year old category and neither differed significantly from the sixteen-seventeen year olds ($Ms=4.85$ vs 5.54 and 5.34).

ITEM K. - *"It is sport people who set a bad example by drinking too much"* (Elvy, 1980). The ANOVA revealed a significant main effect of area, $F(1, 360)=11.42$, $p<0.001$. The rural participants had a higher rating than the urban participants ($Ms=5.74$ vs 5.17). In addition there was a significant interaction

effect between age category and area, $F(2, 360)=3.35$, $p<0.05$ (See Figure 4) and between sex and area, $F(1, 360)=6.68$, $p<0.01$ (See Figure 5). Post hoc tests (Scheffé, $p<0.05$) revealed a significant difference in the eighteen-twenty year old rural and urban participants ($M_s=5.81$ vs 4.62). There were no significant difference between the sixteen-seventeen year old rural and urban participants ($M_s=5.79$ and 5.57). There were also no significant difference between the seventeen-eighteen year old rural and urban participants ($M_s=5.61$ and 5.33). There was no significant difference between rural participants in the three age categories ($M_s=5.79$ and 5.61 and 5.81) nor between urban participants in the three age categories ($M_s=5.57$ and 5.33 and 4.62).

Figure 4.

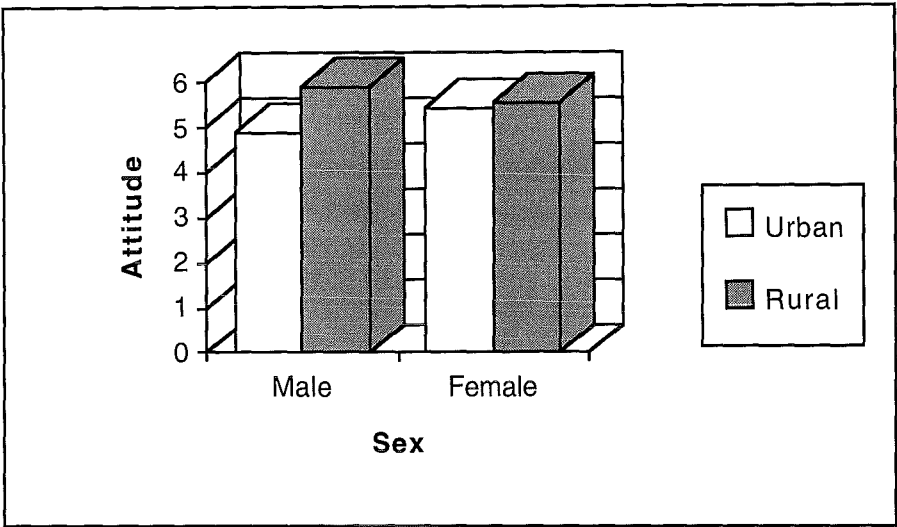
Mean Ratings on Item K as a Function of Age Category and Domicile



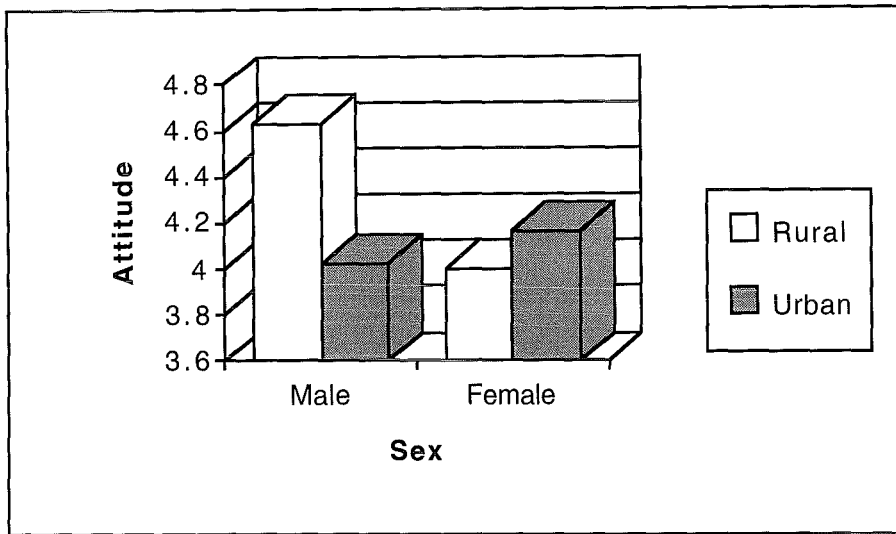
Post hoc tests (Scheffé, $p<0.05$) for the sex by area interaction (see Figure 5.) revealed a significant difference between the rural males and urban males ($M_s=5.91$ vs 4.91). There was no significant difference between rural and urban females ($M_s=5.56$ vs 5.44) Males and females in rural areas did not differ significantly from one another ($M_s=5.91$ and 5.56) and there were no significant differences between males and females in urban areas ($M_s=4.91$ and 5.44).

Figure 5.

Mean Ratings for Item K as a Function of Sex and Domicile



ITEM L. - *"We would have fewer problems with heavy drinkers if we had more sensible laws about drinking"* (Elvy, 1980). An ANOVA on this item indicated a significant interaction between sex and area $F(1, 360)=4.24, p<0.05$ (see Figure 6). Post hoc tests (Scheffé, $p<0.05$) revealed a significant difference between the rural males and females ($M_s=4.63$ vs 4.00). There was no significant difference between the urban males and females ($M_s=4.03$ and 4.17). There were also no significant differences between the urban and rural males ($M_s=4.03$ and 4.63), or the urban and rural females (4.00 and 4.17).

Figure 6*Mean Ratings for Item L as a Function of Sex and Area*

ITEM M. - *"New Zealanders have a reputation overseas for being heavy drinkers"* (Elvy, 1980). The ANOVA on this item revealed no significant main effects or interactions.

ITEM N. - *"We should stop bothering about the amount of drinking in New Zealand"* (Elvy, 1980). The ANOVA revealed a significant main effect of sex, $F(1, 361)=28.10$, $p<0.0001$. Males agreed more strongly with this statement than females ($M_s=3.74$ vs 4.77).

ITEM O. - *"Most young people under 18 are already drinking more than is good for them"* (Elvy, 1980). The ANOVA revealed a significant main effect of sex, $F(1, 360)=16.11$, $p<0.0001$. Females agreed more strongly than the males with this statement ($M_s=2.50$ vs 3.18).

ITEM P. - *"Alcohol is a source of conflict in most families with teenage children"* (Elvy, 1980). The ANOVA revealed a significant main effect of age category, $F(2, 358)=3.40$, $p<0.05$. Post hoc tests (Scheffé, $p<0.05$) revealed that the eighteen-twenty year olds differed significantly from the sixteen-seventeen year

olds, who did not differ significantly from the seventeen-eighteen year olds ($M_s=3.80$ vs 3.31 and 3.75).

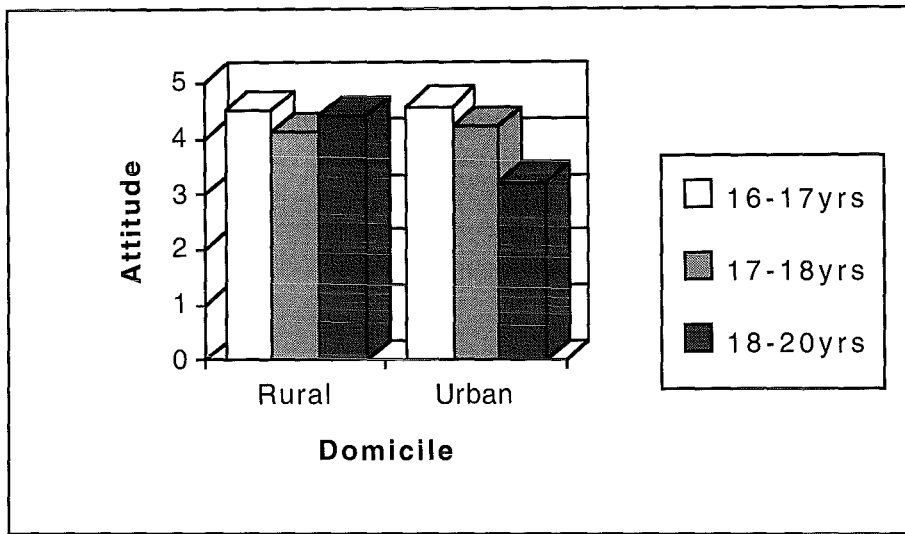
ITEM Q. - *"Despite the odd exception, most New Zealanders drink in a fairly sensible way"* (Elvy, 1980). The ANOVA revealed a significant main effect of age category, $F(2, 360)=3.94$, $p<0.05$. Post hoc tests (Scheffé, $p<0.05$) revealed that the eighteen-twenty year olds differed significantly from the seventeen-eighteen year olds, although neither of these age categories differed significantly from the sixteen-seventeen year olds ($M_s=4.06$ vs 3.48 and 3.83).

ITEM R. - *"Alcohol is probably the single most important cause of breakdowns in New Zealand marriages today"* (Elvy, 1980). The ANOVA revealed significant main effects of area, $F(1, 360)=4.04$, $p<0.05$ and of age category, $F(2, 360)=5.5$, $p<0.001$. In addition there was a significant interaction between age category and area, $F(2, 360)=5.98$, $p<0.005$ (see Figure 7). Participants from rural areas were in greater agreement than the participants from urban areas ($M_s=4.00$ vs 4.34). Post hoc tests (Scheffé, $p<0.05$) revealed that the eighteen-twenty year old differed significantly from the sixteen-seventeen year olds. Neither differed significantly from the seventeen-eighteen year olds ($M_s=3.32$ vs 4.53 and 4.16).

For the interaction between age category and area, post hoc tests (Scheffé, $p<0.05$) revealed that the eighteen-twenty year old urban participants differed significantly from the sixteen-seventeen year old urban participants and neither group differed significantly from the seventeen-eighteen year old urban participants ($M_s=4.56$ vs 3.22 and 4.21). There was no significant difference between the rural participants in the three age categories ($M_s=4.50$ and 4.10 and 4.40). In the eighteen-twenty year olds there was a significant difference between rural and urban ($M_s=4.40$ vs 3.22). There was no significant difference between the rural and urban sixteen-seventeen year olds ($M_s=4.50$ and 4.56), or between the rural and urban seventeen-eighteen year olds ($M_s=4.10$ and 4.21).

Figure 7.

Mean Ratings for Item R as a Function of Age Category and Area



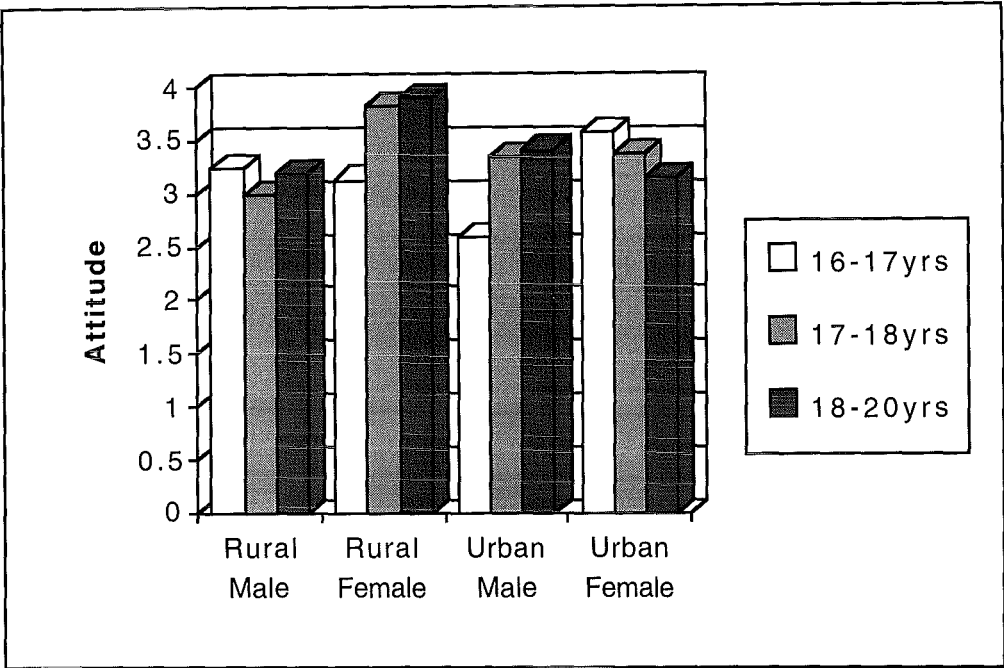
ITEM S. - *"The only people who listen to warnings about alcohol and driving are those who don't drink and drive anyway"* (Elvy, 1980). The ANOVA revealed no significant main effects or interactions on this item.

ITEM T. - *"The normal healthy person likes to drink a little, but often"* (Elvy, 1980). The ANOVA revealed no significant main effects or interactions on this item.

ITEM U. - *"At present we worry too much about alcohol in comparison to other serious problems facing the country"* (Elvy, 1980). The ANOVA revealed a significant main effect of sex, $F(1, 361)=4.19, p<0.05$ and a significant interaction between age category, sex and area, $F(2, 361)=3.47, p<0.05$. The male participants were in greater agreement with this item than the females ($M_s=3.13$ vs 3.49). Post hoc tests (Scheffé, $p<0.05$) revealed no significant differences between any of the area by sex by age category groups.

Figure 8.

Mean Ratings for Item U as a Function of Age, Sex and Domicile.



When Drinking Becomes a Problem

This was measured by the reported level of weekly consumption that would be the limit where drinking was likely to become a problem. The estimated upper limit consumption for male and female drinkers of beer and spirits was recorded by each participant.

A 2 (sex: male/female) by 2 (area: rural/urban) by 2 (target: male/female) by 2 (alcohol: spirits/beer) ANOVA with repeated measures on the target and alcohol factors, with the measure of when drinking becomes a problem as the dependant variable was performed.

There was a main effect of sex, $F(1, 271)=26.32$, $p<.0001$. Estimates were higher for males than females ($M_s=19.06$ vs 7.36 standard drinks [SD] per week).

There was a significant main effect of the area in which the participants live $F(1, 271)=4.40, p<.05$. Estimates were higher for urban than for rural ($M_s=15.60$ vs 10.82 SD/week).

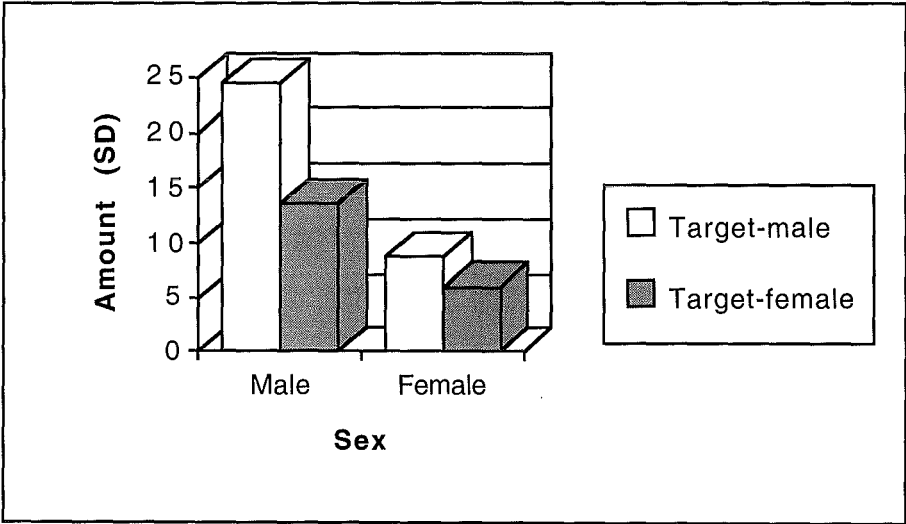
There was a significant effect of alcohol type, $F(1, 271)=5.72, p<.017$. Estimates of safe drinking were higher for beer than spirits ($M_s=15.38$ vs 11.05 SD).

There was a significant main effect of target, $F(1,271)=19.20, p<.0001$. Estimates for females were lower than for males ($M_s=9.83$ vs 16.59 SD).

There was a significant interaction effect between sex of the participant and the sex of the target, $F(1,271)=6.93, p<.005$ (see Figure 9.). Post hoc tests (Scheffé, $p<0.05$) revealed that male participants made significantly different estimates for the male and female targets ($M_s=24.47$ vs 13.65) but there were no significant differences between estimates for male and female targets made by female participants ($M_s=8.71$ and 6.01). In addition male and female participants differed significantly in their ratings for both the male target ($M_s=24.47$ vs 8.70) and the female target ($M_s=13.65$ vs 6.01).

Figure 9.

Estimates of the Levels at Which Drinking Becomes a Problem as a Function of Sex of Participant and Sex of Target Drinker



Where Do I Go For Help?

Participants were asked the open ended question, *"If you or a friend had a problem with alcohol where would you go, or advice your friend to go for help or who would you be likely to talk to , or suggest your friend talk to about it?"* This question was posed to find out what help options were perceived as available to this age group. Of the three hundred and eighty two participants one hundred and fourteen failed to answer this question and ten participants stated they had no idea where to go, or who to talk to. The remaining two hundred and fifty eight participants provided a total of six hundred and ninety five responses. These helping agencies or people, are displayed along with the percentage of the total number of participants indicating each option (see Table 4.).

Table 4.

Percentage of Participants Reporting Knowledge of Possible Helping Agencies/People.

Helping agency/person	Percentage of participants
Alcoholic Anonymous	44.20
Parent	36.82
Alcohol Help-line	32.17
School Councillor	31.78
Friend	31.40
Other Councillor	21.70
Other Family/Siblings	13.56
Doctor	10.50
Not my Business/no worry	2.00

Other options listed as possible helping agencies or people were; an older trusted person, health nurse, police, teacher, alcohol clinic, psychologist or psychiatrist, social worker, pastor, Youthline, Lifeline or the Samaritans, Citizens Advice

Bureau, ALAC, DARE, the hospital, Queen Mary Centre, youth worker, family planning, reformed alcoholics and grandparents.

The Theory of Planned Behaviour

Of the three hundred and twenty two participants who completed the question, *"During the next four weeks will you attend any event where there will be alcohol available"*, eighty eight point eight two percent of the participants answered yes. These subjects then completed questions investigating their intentions to drink at the stated occasion.

Predictors of Control, Subjective Norm, Attitude, and Intention

In line with previous research investigating The Theory of Planned Behaviour (e.g. Schifter and Ajzen, 1985) items were collapsed to produce a single score for subjective norm, attitude, control and intention. (See Table 2.). Separate 2 (sex: male/female) by 2 (area: rural/urban) by 3 (age category: 16-17/17-18/19-20) ANOVA's were performed on control, subjective norm, attitude, and intention.

Control

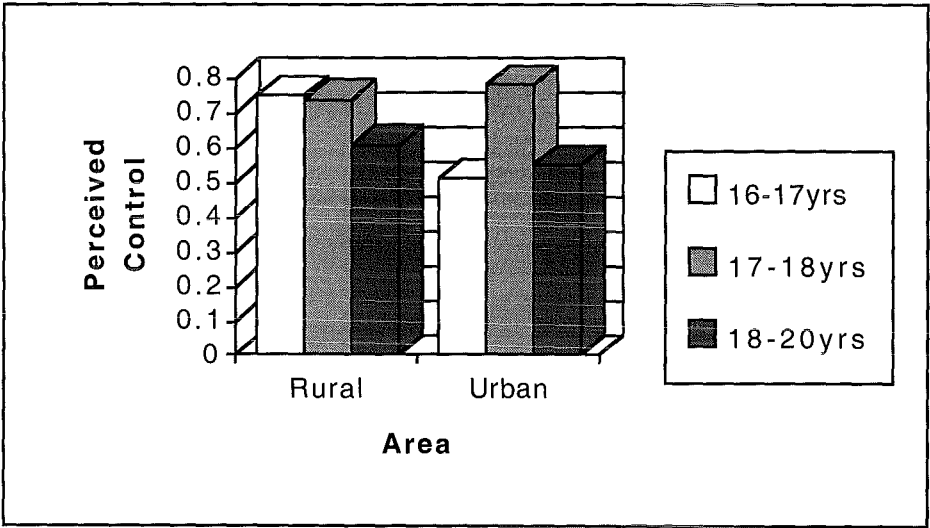
Level of perceived control was obtained by asking participants how sure they felt about not consuming alcohol on a particular occasion when they had previously made a decision not to drink at this time. The ratings for control ranged from zero to one hundred with the later indicating complete perceived control. Perceived control has been converted to a range from zero to one with 'one' indicating complete perceived control, for the analysis below.

A 2 (sex: male/female) by 2 (area: rural/urban) by 3 (age category: 16-17/17-18/19-20) ANOVA was performed on the control ratings. There were significant main effects of sex, $F(1, 277)=6.27, p<0.01$ and of age category, $F(2, 277)=6.29, p<0.001$. Male participants reported a lower level of perceived control than did female participants ($M_s=0.60$ vs 0.78). Post hoc tests (Scheffé, $p<0.05$) on the age category effect revealed that the sixteen-seventeen year olds differed significantly from the seventeen-eighteen year olds, who differed significantly from the eighteen-twenty year olds. The youngest and oldest age categories did not differ significantly from one another ($M_s =0.63$ vs 0.76 and 0.58).

In addition there was a significant interaction effect between age category and area, $F(2, 277)=3.52, p<0.05$ (see Figure 10.). Post hoc tests (Scheffé, $p<0.05$) revealed no significant individual comparisons.

Figure 10.

Perceived Control Over Drinking Behaviour as a Function of Area and Age Category.



Attitude

Attitude was gauged by a three part question which asked for a rating on how good, desirable and acceptable the participant believed their drinking behaviour to

be. These ratings were then collapsed into a single attitude score. A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age category: 16-17/17-18/18-20) ANOVA was performed and revealed no significant main effects or interactions.

Subjective Norm

The subjective norm values were obtained by combining questions numbered one, three and six. These questions ask the participants whether people close to them thought they should drink or not on a particular occasion and how likely these significant others would support a decision not to drink. A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age category: 16-17/17-18/18-20) ANOVA was performed

There was a significant main effect of sex, $F(1, 277)=8.83$, $p<0.005$. The male participants had higher values of subjective norm than the females ($M_s=3.91$ vs 3.51).

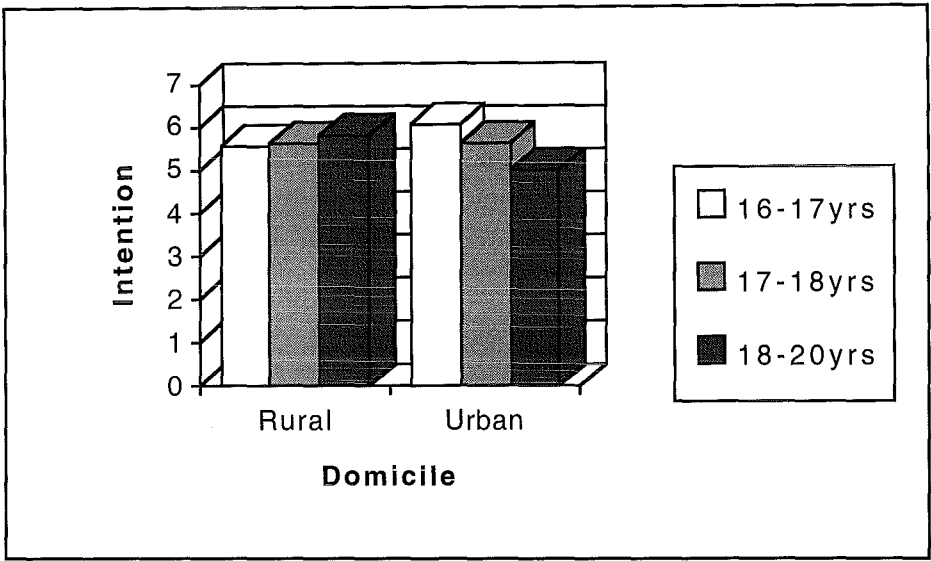
Intention

Intention was measured with two questions which asked directly if the participant intended to drink, or not to drink on the stated occasion. These questions were collapsed to give a single measure of intention for each participant.

A 2 (sex: male/female) by 2 (area: urban/rural) by 3 (age category: 16-17/17-18/18-20) ANOVA revealed a significant interaction effect between sex and area,, $F(1, 294)=4.89$, $p<0.05$ (see Figure 11.) Post hoc tests (Scheffé, $p<0.05$) revealed no significant individual comparisons.

Figure 11.

Intention to Drink as a Function of Area and Age Category.



Predicting Intention to Drink.

A multiple regression analysis with intention as the dependant variable and level of control, attitude, subjective norm, age, sex and area as the independent variables was performed. The regression analysis was significant, $F(6, 258)=34.84$, $p<0.0001$. The only significant predictor of intention was attitude ($Beta=0.6402$, $p<0.0000001$), which explained forty four percent of the variance (adjusted $r^2=0.435$) As the attitude toward drinking became increasing, desirable or acceptable then intention to drink increased.

SELF-REPORT ALCOHOL DIARY

While it was the intention of this study to investigate actual drinking behaviour over a four week time period and its relation to the theory of planned behaviour, these comparisons were not possible for two reasons. Firstly, of the one hundred and sixty seven alcohol dairies that were taken by participants to be filled out, only twenty five were returned. The return rate was low and is possibly

a biased sample. Secondly, the returned dairies were all from participants who intended to drink and did in fact drink. There was no information from those who intended to drink but who did not and about those who did not intend to drink. A summary of the information provided by the dairies follows.

Of the returned dairies three were not filled out correctly and one participants sex was unknown. Three of the dairies were from males and eighteen from females. Seventeen participants were from rural area and four were from urban area . Six of the returned dairies were from sixteen to seventeen year old participants, seven from seventeen to eighteen year olds and nine from eighteen to twenty year olds. The dairies provided self-report information on the quantity, type and frequency of alcohol consumption in a four week period. From these reports total consumption, weekly consumption, average drinking, occasion consumption and frequency of drinking above ALAC's safe guidelines was calculated. Only two participants regularly (80% of the time) drank within ALAC's guidelines for drinking per occasion. In addition average drinking occasion consumption as reported in the questionnaire was compared with average drinking occasion consumption in the self-report diary. Sixteen of the participants were found to have under-reported their alcohol consumption in the questionnaire as compared to the diary, by an average of thirty two Standard Drinks per four week period. Four of the participants over-reported their consumption in the questionnaire by an average of twelve Standard Drinks per four week period.

DISCUSSION

The main aims of the present research were, firstly, to compare the attitudes of the participants to component one through seven with the attitudes of the participants in Elvy's (1980) study. Secondly, to examine the relationship between age, sex and domicile (urban or rural) with attitudes toward alcohol. Thirdly, Ajzen's (1985) Theory of Planned Behaviour was investigated to establish its value in predicting alcohol consumption in an adolescent population.

In addition to the above aims, the level at which it is believed alcohol becomes a problem was investigated. Participants were also asked of their knowledge for helping agencies and treatment centres in dealing with alcohol problems.

Prevalence and Patterns of Consumption

A large portion of the sixteen to twenty year olds surveyed in the present study drank alcohol at least on a monthly basis (81.3%). This figure is comparable to a number of New Zealand studies that have reported between seventy nine percent (Routledge, 1979) and eighty nine percent (Wyllie et al, 1996) of adolescents in this age group as drinkers. Just over thirty three percent (33.7%) of participants reported consuming alcohol on a weekly, or fortnightly basis and five point four percent on a daily basis. Again these figures are consistent with those previously reported, for this population cohort (Wyllie et al, 1996).

Across 20 years - Twenty One Attitude Items 1978-79 versus 1997

In the present study, attitudes to the twenty one items comprising the seven components, tended to be spread along the continuum from strongly agree (=1) to strongly disagree (=7). This resulted in the average score for each item and indeed each component being in the range of three to five. It was therefore not possible for the attitude components to be discussed in terms of absolute agreement or disagreement, but rather as a general direction of attitude.

The reliability of the seven component groupings in the present study was determined to be low. The low Cronbach alpha's for these components suggested that the structure of attitudes has changed across time. Attitudes that were previously correlated with one another, no longer appear to have the same strength of relationship. The implication of the low reliability within the components is that the analysis of the components need be interpreted cautiously. Items were therefore also analysed individually to provide further detailed attitude information.

The aim of the present study with respect to the seven attitude components, was to compare attitudes in the present study with those reported in Elvy's (1980) study. It was hypothesised that the attitudes reflected by the components in the present study, would be different when compared to those of Elvy's (1980) study.

The comparison of attitudes in the present study to those in Elvy's (1980) study revealed a generally similar attitude toward components three, four and seven. Adolescents twenty years ago had similar attitudes to the present generation of adolescents, with regard to drink driving campaigns, laws about drinking, alcoholism, the price of liquor, and the negative impact alcohol has on crime rates, and marriage breakdowns in New Zealand.

In contrast, the attitudes of component one, two, five and six differ between the present study and that of Elvy (1980). The attitudes reflected by these components in the present study suggested an increased level of concern for alcohol and alcohol related problems. Alcohol was viewed as a disruptive element in families, yet the participants indicated that too much attention was given to drinking problems in relation to other issues facing the country. In contrast to Elvy (1980), there was also a degree of non acceptance of current trends in alcohol consumption, and a trend toward disagreeing that children should be taught to drink in moderation from an early age.

Some support is provided for the hypothesis predicting that attitudes would differ between the two studies. Adolescents in the present study generally indicated increased concern for alcohol problems, a non acceptance of trends in drinking and a belief that alcohol has a disruptive effect within families, whereas attitudes to drink driving, advertising campaigns, alcoholism and the price of liquor have not changed noticeably over time.

The relationship of sex, age, and domicile (rural or urban) to the seven attitude components was investigated, and a comparison made to the relationships as discussed by Elvy, (1980). Both the present study and that of Elvy, (1980) reported a significant relationship of age with component one. The present study reported a significant relationship of sex with component one, not reported by Elvy, (1980). The only other similarity between the two studies was for component two. Both the present study and Elvy's study reported a main effect of sex. In the present study females had increased concern compared to males for the harmful effects of alcohol.

There was also a significant relationship between sex and attitude component one in the present study. Females reported a higher level of concern for alcohol related problems in society than did the males. This is consistent with Wyllie et al (1996) who reported that over fifty percent of females between the ages of sixteen and nineteen had been seriously concerned, or worried about the drinking of

friends, relatives, or acquaintances during the pervious year. In comparison, less than forty percent of males in the same age category had experienced concern for the drinking of a friend, relatives, or acquaintances.

The analysis of individual items indicated significant sex differences in a number of them. Generally females were less accepting of trends in alcohol consumption. It was also indicated that females were more likely to think that crime was a consequence of liquor being so easy to access, and that most young people were already drinking more than what was good for them. In addition females indicated greater concern for the harmful effects of drinking and were more likely to agree that New Zealanders should be concerned about alcohol consumption in this country. This finding provided support for hypothesis (B) which stated that females would be less accepting than males of the trends in alcohol use and that they would be more concerned about the harmful effects of alcohol.

Age category also significantly related to a number of the individual items. Over all the older participants were more likely to agree that alcohol was a source of conflict and a factor in marriage breakdowns. They were also more likely to agree that alcoholics could not help being alcoholics, and that most people did not drink sensibly, and that advertising had helped reduce drink-driving. This does not provide support for hypothesis (D) With evidence to suggest that older adolescents are often drinking large amounts of alcohol it seems that while they are aware of the risks involved they fail to internalise the potential consequence. Awareness of the problem may not be the same as concern for the problem.

Urban-rural differences indicated that the rural participants were more accepting of trends in alcohol consumption and more likely to believe that New Zealand differed little from other countries in this respect. This does not provide support for hypothesis (C). Research indicates that levels of consumption of alcohol are generally lower in rural areas. It was hypothesised that in light of these lower consumption levels there would be less concern for alcohol related problems

in rural participants. This is not the case. This discrepancy may be explained in part by the large amount of media advertising to reduce rural road crashes which has increased the visibility of the negative impact of drink driving and other alcohol related behaviour. This in turn may have influenced a greater awareness and increased concern about alcohol related problems.

When Drinking Becomes a Problem

Findings from the present experiment indicate that sex, domicile, alcohol type and target drinker were all significantly related to the level at which drinking becomes a problem. ALAC has set out guideline for responsible drinking in adults. These guidelines suggested no more than six standard drinks each drinking occasion, for men and four standard drinks for women. In addition, it was recommended that no more than twenty one standard drinks be consumed each week for men, and fourteen for women. Two or three alcohol free days a week were also advised.

Participants in the present study generally reported weekly limits of consumption within those set out by ALAC. The exception to this was indicated by a significant interaction between sex of the participant and sex of the target drinker. Male participants reported that a male drinker could safely consume, on average just over twenty four standard drinks per week. This amount is marginally above the guidelines set out by ALAC.

Interestingly reported actual alcohol consumption indicated that a large proportion of this population is drinking above the recommended upper limits, despite being aware of those limits. Eighty percent of the participants reported an average per occasion consumption above the ALAC recommendations. For females this consumption was fifteen point six-three Standard Drinks per occasion, and for males twenty five point two Standard Drinks per occasion. A notable percentage (40%) of these adolescents regularly purchased their own alcohol,

despite the legal age alcohol purchase being twenty years of age. In addition forty eight percent were supplied these often large amounts of alcohol by their parents or a friend. Three possible avenues for action are suggested by these statistics. First, parent education on fostering safe drinking practises in the under twenties. Secondly, a review of the sale of liquor act with the aim of decreasing alcohol sales to under-age customers and thirdly, educating adolescents to the potential harm of drinking excessively. It appears that adolescents are aware of safe limits for drinking but maybe do not associate excessive drinking with negative health or social consequences.

Who Can Help With Alcohol Problems?

Information was gathered from the participants on their knowledge of agencies and people who could help them or a friend with a alcohol problem. This information was collected to gain insight into the level of knowledge that adolescents have about options for help or treatment. Twenty nine percent of participants failed to answer this question and ten participants (2%) reported that they had no knowledge of helping agencies or people. The remaining two hundred and fifty-eight participants listed an average of two point six-nine responses each covering forty possible helping agencies or people. The most commonly mentioned were Alcoholic Anonymous, Parents, the Alcohol Help-line and school councillors. If parents and school councillors are to be dealing with adolescent alcohol concerns then it is likely, extra education is needed in for these people so they can adequately support an adolescent with alcohol related concerns.

The Theory of Planned Behaviour

It was an aim of the present experiment to investigate The Theory of Planned Behaviour in predicting intentions to consume alcohol and actual drinking

behaviour. It was hypothesised that attitude and subjective norm will predict intention to drink, which will in-turn predict drinking behaviour providing that perceived control is high.

It was intended that actual drinking behaviour would be measured by a self-report alcohol diary completed over a four week time span. Only a small number of the self-report diaries were returned at the four week completion (15%). All participants that returned their diaries had intended to drink and did in fact consume alcohol. There was no information from those who intended to drink, but who did not and from those who did not intend to drink. It was therefore not possible to analyse the relationship between The Theory of Planned Behaviour and actual alcohol consumption.

A multiple regression analysis for control, attitude, subjective norm, age, sex and area with intention to drink as the dependant variable was significant, however the only significant predictor of intention was attitude. As the attitude of the participants to drinking became increasingly positive then intention to drink increased. The hypothesis was only partially supported by this finding. A potential reasons for the failure of subjective norm to predict intention may be, programs in schools such as that run by DARE have a strong focus on encouraging adolescents to say 'No' to alcohol and drug use regardless of pressure from peers. The opinions of others and motivation to comply with others wishes may be attenuated by the increased perception of freedom to say 'No' without fear of rebuke from ones significant others.

The findings of the present study indicate a number of things. Attitudes do not remain static across time and in addition the structure of attitude beliefs has changed. In New Zealand most young people have a knowledge of safe and unsafe levels of alcohol consumption, yet in terms of personal consumption seem to have little regard for these safe levels. A large proportion of adolescents were consuming alcohol on a regular basis and in addition many were purchasing their own liquor. Attitudes toward alcohol and alcohol related issues are seen to vary as

a function of age sex and domicile and in many instances indicate a lack of concern for alcohol related issues and concerns. Future research would benefit from investigating these attitudes further in the hope of ultimately decreasing alcohol misuse and abuse in adolescent populations

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APPENDIX A

UNIVERSITY OF CANTERBURY DEPARTMENT OF PSYCHOLOGY INFORMATION

You are invited to participate in the research project 'Attitudes and Alcohol Use in Rural and Urban Teenagers.

The aim of this project is to investigate teenagers' attitudes to alcohol, alcohol use and intentions to drink.

Your involvement in this project will take approximately a half of an hour of your time and requires you to answer the questions in the enclosed questionnaire and fill in an alcohol consumption diary during the next 4 weeks.

The results of this project may be published but you may be assured of the complete confidentiality of data gathered in this investigation: the identity of the participants will not be made public. To ensure anonymity and confidentiality you are not required to supply your name and information will be stored on computer disc in a locked cupboard in the Psychology department at the University of Canterbury.

My name is Bronwyn McGregor and I can be contacted at (03) 326-7307 if you have any concerns about your participation in this study. Alternatively, I am more than happy to answer any questions you may have today.

If the questionnaires you fill in today cause you to feel concern for your drinking or that of a friend or family member I would encourage you to contact the Alcohol-Helpline on 0800 787 797 between the hours of 7pm and 11pm (2pm - 10pm from Nov 1st). This is a free and confidential service that can answer your questions and provide information and support.

The project has been reviewed by the University of Canterbury Human Ethics Committee.

QUESTIONNAIRE

ATTITUDES AND ALCOHOL USE IN RURAL AND URBAN TEENAGERS

You are invited to participate in the research project 'Attitudes and Alcohol Use in Rural and Urban Teenagers' by completing the following questionnaires. The aim of the project is to determine attitudes to alcohol and its use by adolescents in urban and rural New Zealand. In addition to this attitudes and consumption will be compared with that of adolescents 20 years ago to determine changing patterns. The questionnaire is anonymous, and you will not be identified as an informant. You may withdraw your participation, including withdrawal of any information you have provided. By completing the questionnaire, however, it will be understood that you have consented to participate in the project, and that you consent to publication of the results of the project with the understanding that anonymity will be preserved

Please read each of the following statements and circle the number on the scales provided that best represents the extent that you agree or disagree with each statement.

1=strongly agree

7=strongly disagree

a. People in N.Z. consume more alcoholic drink nowadays than they used to.

1|

2|

3|

4|

5|

6|

7|

Strongly
Agree

Strongly
Disagree

b. If people drink more in N.Z. then it is just part of the change that is going on in many other countries.

1|

2|

3|

4|

5|

6|

7|

Strongly
Agree

Strongly
Disagree

c. We would have been better off if we had prohibition in N.Z. 50 years ago.

1|

2|

3|

4|

5|

6|

7|

Strongly
Agree

Strongly
Disagree

d. Nowadays liquor is quite cheap in N.Z..

1|

2|

3|

4|

5|

6|

7|

Strongly
Agree

Strongly
Disagree

e. The increasing violent crime rate in N.Z. is due to liquor being so easy to get.

<hr/>						
1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

f. Advertising campaigns have helped to reduce the amount of drinking and driving on our roads.

<hr/>						
1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

g. Sensible families teach their children to try drinking in moderation from an age earlier than 18.

<hr/>						
1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

h. People drink in N.Z. because there is nothing better to do with their time.

<hr/>						
1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

i. There would be fewer crimes involving alcohol if unemployment went down.

<hr/>						
1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

j. Alcoholics cannot help being alcoholics. Its not there fault.

<hr/>						
1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

k. It is sports people who set a bad example by drinking to much.

<hr/>						
1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

l. We would have fewer problems with heavy drinkers if we had more sensible laws about drinking.

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

m. New Zealanders have a reputation overseas for being heavy drinkers.

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

Subject code.....

n. We should stop bothering about the amount of drinking in N.Z.

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

o. Most young people under 18 are already drinking more than is good for them.

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

p. Alcohol is a source of conflict in most families with teenage children.

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

q. Despite the odd exception most young N.Zers drink alcohol in a fairly sensible way.

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

r. Alcohol is probably the single most important cause of breakdown in N.Z. marriages today.

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

s. The only people who listen to warnings about alcohol and driving are those who don't drink and drive anyway.

1|

2|

3|

4|

5|

6|

7|

Strongly
Agree

Strongly
Disagree

t. The normal healthy person likes to drink a little, but often.

1|

2|

3|

4|

5|

6|

7|

Strongly
Agree

Strongly
Disagree

u. At present we worry too much about alcohol in comparison to the other serious problems facing the country.

1|

2|

3|

4|

5|

6|

7|

Strongly
Agree

Strongly
Disagree

The following questions are to get an estimate of YOUR belief about the level at which drinking becomes a problem.

Over the course of many weeks on average how many glasses (250ml) of beer per week do you think a person could drink and not have any problem with alcohol.

For a man?
For a women?

If the drink was a spirit (e.g. vodka, rum, whisky) how many nips could a person drink and not have a problem with alcohol? (A nip of spirits is approximately the width of a finger, in a glass)

For a man?
For a women?

If you or a friend had a problem with alcohol where would you go, or advice your friend to go for help or who would you be likely to talk to, or suggest your friend talk to about it. (please list all the options you would consider)

.....
.....

.....
.....

subject code.....

During the next 4 weeks will you attend any event where there will be alcohol available?
Yes/No (delete one)
If YES, please continue with the questions below. If NO, please turn to the page titled 'Demographic Data'.

What is the occasion you will be attending where you will have the opportunity to drink alcohol? eg friends birthday.

.....

Please answer the following statements in relation to the occasion you have listed above.
For each statement 1-6 mark your level of agreement or disagreement on the scale provided. For question 7 answer true or false.

1. Most people who are important to you think that you should drink alcohol at this occasion.

—	<hr/>						
	1	2	3	4	5	6	7
	Should not						Should

2 I intend to drink alcohol at this occasion

—	<hr/>						
	1	2	3	4	5	6	7
	Unlikely						Likely

3 Most people who are important to you think that you should try not to drink alcohol at this occasion

—	<hr/>						
	1	2	3	4	5	6	7
	Should not						Should

4 For me to drink alcohol at this occasion would be..

—	<hr/>						
	1	2	3	4	5	6	7
	Desirable						Undesirable

—	<hr/>						
	1	2	3	4	5	6	7
	Good						Bad

—	<hr/>						
	1	2	3	4	5	6	7
	Acceptable						Unacceptable

5 I intend to try not to drink alcohol at this occasion

—	<hr/>						
	1	2	3	4	5	6	7
	Unlikely						Likely

6 Those people that are close to me would likely support my decision not to drink alcohol at this occasion.

1|

2|

3|

4|

5|

6|

7|

SupportOppose

7 I have decided not to drink alcohol at this occasion True/False (delete one)

Please answer the following question by deciding on a likelihood between zero and 100.

8 If you were to try not to drink alcohol at this occasion how likely is it that you would manage not to drink alcohol? (A rating of zero indicates that no matter how hard you try you will probably still drink alcohol. A rating of 100 indicates that if you try not to drink you are totally certain you would not drink)

YOUR RATING.....

DEMOGRAPHIC DATA

subject code

AGE:Years.....Months
GENDER Male/Female (Delete one)

1. Is the area in which you live a **rural** or **urban** area? If you are uncertain please give the name of the town and its approximate population

.....

2. Which ethnic group do you identify with? Please put a circle around the correct number.

- | | | |
|---------------------------|---|-------------------|
| 1. N.Z. Maori | 2. N.Z. European/Pakeha | 3. Other European |
| 4. Tongan | 5. Samoan | 6. Chinese |
| 7. Indian | 8. Identify with no particular ethnic group | |
| 9. Other (Please specify) | | |

.....

3. On average how often do you drink alcohol? (circle appropriate letter)

- | | | |
|---------------|-----------|-------------|
| a Never | b Daily | c Weekly |
| d Fortnightly | e Monthly | f less than |
- monthly

(If you circled (a) for this question you are not required to answer the following questions.

4. How long ago was the last occasion you consumed alcohol?

.....

5. What is your preferred alcoholic drink?

.....

6. When you drink alcohol, on average how much would you consume? eg, 2 cans of beer,
1 bottle of wine etc.

.....

7. Do you usually buy your own alcohol? Yes/No (delete)

7a If No, who usually supplies you with alcohol? eg parents, friend.

.....

8. What would be your best estimate of your total alcohol consumption during the previous 4 weeks.

.....

If you have any comments about this research please write them below or on a separate piece of paper if you wish.

Thank you for your time in filling out these questionnaires, your help is much appreciated.

subject code

SELF-REPORT ALCOHOL DIARY

On the opposite side of this page is your Self-Report Alcohol Diary. This covers a 4 week time span and begins today. If today is a Wednesday for example then start at Wednesday on week one and continue recording your alcohol intake for a full 4 weeks (i.e. until Tuesday in week 5) If you are unsure about this please ask now.

Over the next 4 weeks please indicate any day on which you consumed alcohol, how much and what type of beverage. (eg 2 cans of beer) beside the appropriate day.

For those of you that indicated that you would be attending an occasion where alcohol will be present please mark a circle around that day as well as indicating any alcohol consumed.

I will return in 4 - 5 weeks and collect these sheets back in. If you have any questions either ask them now or contact me at the phone number provided on your information sheet.

WEEK ONE

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

WEEK TWO

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

WEEK THREE

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

WEEK FOUR

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

WEEK FIVE

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday